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 NEWS
ISSUE

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RAILWAY AGE

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Feb. 15, 1954 NEWS ISSUE Vol. 136, No. 7

Week at a Glance

Labor developments have been numerous in the past few days. The conductors settled part of their demands; the union shop lost another round; and carriers appealed a court decision allowing an emergency board to pass on "non-ops" health and welfare demands. **7**

Twelve months' net income of Class I railroads for 1953, now estimated at \$875 million, fell disappointingly short of earlier estimates. **9**

Robert R. Young's request for chairmanship of the NYC has been rejected. **11**

Radio helps the T&P by reducing freight and passenger train delays and by improving service. **17**

FORUM: Some of the common carriers' competitive troubles were clearly brought out in some parts of the I.C.C.'s latest annual report—but the commission left unsaid some of the sweeping conclusions concerning regulatory policy toward which the report unmistakably points. **23**

What's new in A.A.R. research—A two-part article describing some of the investigations now under way to improve railroad operations:

In the engineering field **24**

In the mechanical field **34**

The Question and Answer page presents a dissenting viewpoint on part of our January 4 answer to the November 23 "quiz" on car service rules. **30**

BRIEFS

An atomic locomotive developing 7,000 horsepower and costing in the neighborhood of \$1.2 million could be practical if the price of its uranium fuel were economically feasible, Lyle J. Borst, University of Utah nuclear



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Current Statistics

| | |
|---|------------------|
| Operating revenues, twelve months | |
| 1953 | \$10,664,317,337 |
| 1952 | 10,581,598,621 |
| Operating expenses, twelve months | |
| 1953 | \$ 8,135,476,779 |
| 1952 | 8,053,159,011 |
| Taxes, twelve months | |
| 1953 | \$ 1,184,857,140 |
| 1952 | 1,261,904,149 |
| Net railway operating income, twelve months | |
| 1953 | \$ 1,109,434,340 |
| 1952 | 1,078,312,684 |
| Net income, estimated, twelve months | |
| 1953 | \$ 875,000,000 |
| 1952 | 836,000,000 |
| Average price railroad stocks | |
| February 9, 1954 | 62.29 |
| February 10, 1953 | 66.99 |
| Carloadings, revenue freight | |
| Five weeks, 1954 | 2,967,321 |
| Five weeks, 1953 | 3,351,041 |
| Average daily freight car surplus | |
| Week ended February 6, 1954 | 104,682 |
| Week ended February 7, 1953 | 67,070 |
| Average daily freight car shortage | |
| Week ended February 6, 1954 | 566 |
| Week ended February 7, 1953 | 2,009 |
| Freight cars delivered | |
| January 1954 | 4,944 |
| January 1953 | 7,981 |
| Freight cars on order | |
| February 1, 1954 | 27,959 |
| February 1, 1953 | 77,414 |
| Freight cars held for repairs | |
| December 1, 1953 | 97,679 |
| December 1, 1952 | 96,085 |
| Average number railroad employees | |
| Mid-December 1953 | 1,155,154 |
| Mid-December 1952 | 1,222,730 |

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PUBLICATIONS (A.B.P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.) AND IS INDEXED BY THE INDUSTRIAL ARTS INDEX AND BY THE ENGINEERING INDEX SERVICE. RAILWAY AGE INCORPORATES THE RAILWAY REVIEW, THE RAILROAD GAZETTE, AND THE RAILWAY AGE GAZETTE.

Departments

| | |
|-----------------------------|----|
| Accounting | 12 |
| Competitive Transport | 8 |
| Equipment & Supplies | 12 |
| Figures of the Week | 9 |
| Financial | 11 |
| Forum | 23 |
| Labor & Wages | 7 |
| Law & Regulation | 10 |
| Organizations | 8 |
| People in the News | 9 |
| Questions and Answers | 30 |
| Railway Officers | 33 |
| Securities | 11 |
| Supply Trade | 16 |


Week at a Glance CONTINUED

physicist, reports. He has developed detailed drawings of the "technically practical" locomotive which would operate for a year or more on 11 pounds of uranium. He said the weight of the locomotive would be within acceptable U. S. railway standards. The fuel cost, however, would have to be below \$11,000 a pound to compete with present diesel locomotives on a construction-cost-plus-annual-fuel-cost basis, he said. Currently the cost of uranium is "classified" information not available to the public. Dr. Borst states that atomic motive power is "just around a small corner" and not 20 years distant. W. M. Keller, A.A.R. director of mechanical research, though not quite so optimistic, admitted such a locomotive was "not out of the picture today by any means."

A drive to collect taxes on sales to railroads has been launched by the state of Illinois. Estimates are that the drive will yield \$10 to \$12 million annually. It has put many railroad supply firms in a tough spot because the state is applying three years' retroactivity in accordance with the act's statute of limitations.

Mail service is slower—roughly 4½ per cent slower—than it was a year ago, the Chicago Tribune discovered, after repeating a controlled mailing test. In tabulating elapsed time between mailing and receipt of nearly 400 letters sent—in most cases, between identical addresses—the paper noted no improvement in service where trucks had been substituted for railway cars in handling mail. It also noted that handling of first class mail by air, as airliner space permits, resulted in "no significant change" in New York-Chicago service; some improvement in the other direction.

A passenger helicopter service—described as "non-subsidized"—was authorized by the Civil Aeronautics Board to begin operation February 1 within a "150-mile radius of Miami." The initial schedule, by National Airlines, reportedly called for two round-trips a day between Miami and West Palm Beach, on a 77-minute schedule for the 75-mile flight, with six intermediate stops.



How all industry benefits
from progressive railroading

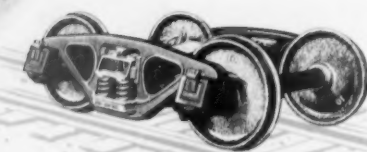
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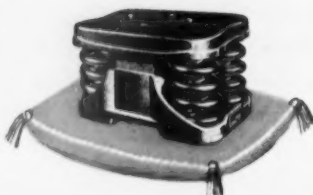
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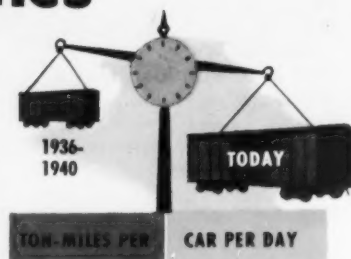
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Conductors Settle—In Part

Hughes accepts "trainman" package on wages and vacations—Mediation Board asks recess before tackling "weight-on-drivers" pay demands

The Order of Railway Conductors has accepted the wage increase and extended vacations which the three regional carrier conferences have already agreed upon with the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen & Enginemen. The settlement calls for a wage increase of five cents an hour effective December 16, 1953, plus incorporation into basic wage rates of the 13 cents an hour accumulated under the cost-of-living clause of the previous agreements. The new agreement terminates this escalator provision. The settlement also extends annual vacations of conductors with 15 years service or more from two to three weeks.

Carrier representatives and the union announced the settlement separately February 5. In a somewhat longer statement, Roy O. Hughes, president of the union, revealed that the National Mediation Board asked a temporary recess before considering further the brotherhood's remaining demand for a graduated pay scale based on weight on drivers of the locomotive hauling a train. He promised "vigorous progression" of this movement when mediation is renewed.

Explanation—By way of explanation,

Mr. Hughes pointed out that locomotive engineers and firemen are paid on the basis of (a) hours worked, (b) miles run, and (c) size of locomotive. Dieselization has increased this third factor for engine crews and wages of conductors and trainmen have lagged accordingly. "It is that inequity which the graduated basis of pay is designed to correct, and which the O.R.C. is determined to correct," he proclaimed.

Carriers Appeal "Non-Op" Ruling—An appeal from the "non-op" case

decision of Federal District Judge Win C. Knoch (*Railway Age*, February 8, page 81) was filed by Carrier Counsel Kenneth F. Burgess in the U.S. District Court of Appeals just a few hours after the adverse decision was made. In ruling that the carriers must negotiate with the 15 non-operating unions on their health, welfare and free transportation demands, Judge Knoch said in part: "It is clear to the court that under the line of cases involving declaratory judgments, the plaintiffs [the carriers] present no justifiable controversy requiring or admitting of a declaratory judgment and accordingly the motion of the defendants [the brotherhoods] to dismiss the action is granted." Mr. Burgess has indicated he will seek an early decision in the appeal. An emergency board will resume hearings in the case February 15.

Union Shop Loses Another Round

Texas judge enjoins Santa Fe from signing union shop agreement — Compulsory unionism "repugnant to the idea of human worth," he rules

The union shop amendment to the Railway Labor Act has come out second best in another clash with a state "right-to-work" law. After a three-week trial before a jury of 12 men, Judge E. C. Nelson of the 108th district

court, Potter county, Amarillo, Tex., has issued an injunction permanently enjoining sixteen non-operating railroad unions and the Santa Fe from entering into a union shop contract. His injunction also forbids the unions



FULL-LENGTH DOME CARS, built by Budd Company for the Santa Fe, each seat 103 persons—57 in angled seats on the upper deck, 18 in an upper-deck lounge, and 28 in a club lounge on the lower level. Eight of the cars will go into service within the next few weeks—five on "El Capitan," between Chicago and Los Angeles; one each on the



"Chicagoan" and the "Kansas Cityan" between Chicago and Oklahoma City; and one as a spare. Budd also is building six other full-length dome cars, but with a smaller lounge and crew dormitory accommodations on the lower level, for the Santa Fe's new "San Francisco Chief," when it goes into service a few months from now.

from striking to force the Santa Fe to sign such a contract.

Judge Nelson ruled that compulsory unionism was "repugnant to the idea of human worth and to man's freedom of choice." He found that the amended Railway Labor Act deprived individual employees—union and non-union alike—and the railroad, of liberty and property contrary to the federal Constitution's fifth amendment guarantee of due process of law.

He also held that the act:

- Violates the Constitution's first amendment protection of freedom of speech and assembly;
- Violates the ninth amendment's guarantee of personal rights and liberties;
- Exceeds the power of Congress to legislate interstate commerce; and
- Invades powers reserved to states in the tenth amendment.

Employees' Suit—The case began on May 5, 1953, when M. E. Sandberry and 13 other Santa Fe employees, represented by Col. E. A. Simpson of Amarillo, instituted the action, although the trial did not begin until last January 11. Suing for themselves and all others similarly situated, they secured from Judge Nelson a temporary restraining order to keep the railroad from signing a union shop contract which the unions were demanding.

Several Santa Fe officers—including President F. G. Gurley—testified. Mr. Gurley made it clear he was not embarking on a union-busting campaign, but that he was strongly opposed to the compulsory unionism of a union shop contract. Daniel P. Loomis, chair-

man of the Association of Western Railways, told the jury that all procedures set down by the Railway Labor Act had been followed. Dr. Leo Wolman, an economist from Columbia university, testified to the growth of the non-operating unions between 1934 and 1951 without the union shop.

Second Loss—The decision was the second setback for the union shop amendment. The first occurred in the decision of district court Judge Jackson B. Chase of Douglas county, Nebraska (*Railway Age*, January 25, page 14). He ruled the amendment was inapplicable to Union Pacific employees living in Nebraska who are protected by the "right-to-work" amendment to the state's constitution.

If the Texas decision is to be appealed by the unions, it will first pass through the Texas Court of Civil Appeals and then the state's Supreme Court. Many observers predict the case ultimately will reach the U.S. Supreme court.

INDEX TO VOLUME 135

The index to the latest volume of *Railway Age*, July-December 1953, is ready for distribution, and copies may be obtained by those subscribers desiring them. Requests should be addressed to Circulation Department, *Railway Age*, 30 Church street, New York 7. Subscribers who have in previous years made application for the index need not apply again.

Competitive Transport

More 3-Cent, Air-Mail Service Is Proposed

The Post Office Department has proposed that its "experiment" in the handling of three-cent, first-class mail by air be extended to three additional routes between New York, Chicago, and Washington, on the one hand, and Jacksonville, Fla., Tampa, and Miami, on the other.

The proposal was made in a petition asking the Civil Aeronautics Board to authorize the extension. The idea, as a Post Office Department announcement put it, is "to obtain experience in addition to that gained from the segments now in operation between New York and Chicago and Washington and Chicago." (*Railway Age*, September 28, 1953, page 34.)

The department proposes to pay the air lines 18.66 per ton-mile on the New York-Florida run and 20.04 cents per ton-mile on the other two routes. These rates are the same as those now paid, on the New York-Chicago and Washington-Chicago routes, respectively.

Organizations

A.A.R. Will Absorb Mail Pay Committee

A plan to establish a Railway Mail Transportation Division within the Association of American Railroads has been approved by the A.A.R. board of directors.

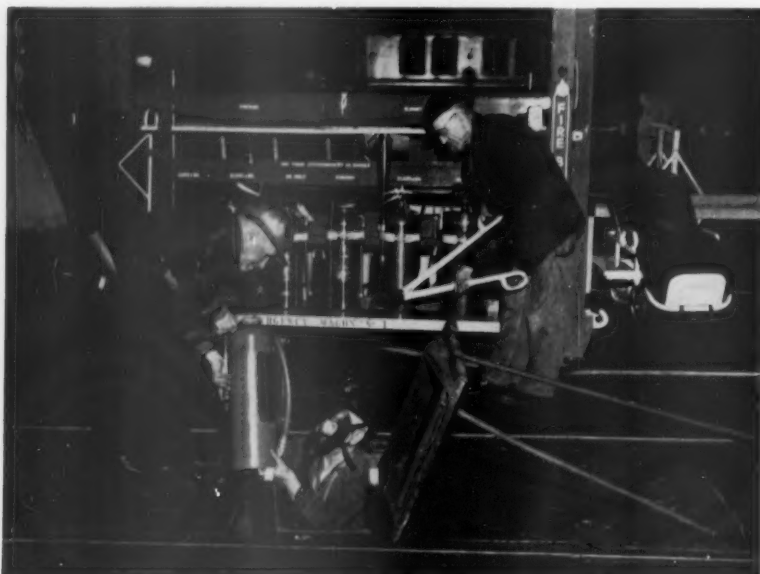
Effective April 1, the new division will take over all activities of the Committee on Railway Mail Transportation, "except those dealing with rates." The latter committee has operated as an independent organization for about 40 years.

Herbert B. Brand, chairman of the present committee, will become director of the new A.A.R. division. The division will be placed under the jurisdiction of the A.A.R. Vice-President Philip A. Hollar.

The **Omaha Traffic Club** will hold its annual dinner February 25, at the Fontenelle Hotel.

A dinner meeting of the **Metropolitan Maintenance of Way Club**, which was scheduled for February 25, will be held March 4, at the Railroad-Machinery Club, New York. S. R. Hursh, chief engineer, Pennsylvania will speak on "Engineers in Railroad Management." The dinner will start at 6:30 p.m. and the meeting at 8 p.m.

A dinner meeting of the **New York Railroad Club**, to be held at the



SPECIALLY BUILT to fight types of fires that may occur in diesel shops, the emergency wagon pictured here was developed by employees of the Reading's Reading, Pa., locomotive shop. Supplied with extinguishers for

all types of fires, the highly mobile unit also is equipped to meet many other kinds of emergencies. A fire blanket is so packed in its container that it is instantly available for use merely by pulling a cord.

Hotel Commodore, February 25, will be sponsored by the **Metropolitan Superintendents' Association**, with P. W. Early, superintendent, Lehigh & Hudson River, as chairman. Speakers will be R. J. Duggan, superintendent, New Haven, on harbor operations; P. M. Roeper, superintendent, Pennsylvania, on mechanization in maintenance of way; J. D. Carkhuff, superintendent, New York Central, on safety in operating procedures, and J. A. Craddock, superintendent, Lackawanna, on customer and public relations. The dinner, preceded by a reception, will start at 7 p.m., and the meeting at 8:15.

The regular monthly meeting of the **Stock Yards District Traffic Club** will be held February 18 at the Central Manufacturing District Club, Chicago. The meeting, designated as Freight Claim Prevention Night, will feature William Dalton, of the Container Laboratories, as guest speaker.

A **West Coast Conference of Women's Traffic Clubs** will be held in the Claremont Hotel, Berkeley, Cal., February 20-22, in which clubs from San Francisco, Seattle, Tacoma, Portland, Los Angeles and others will participate. President Grace McAuliffe of the **Women's Traffic Club of San Francisco**, will preside at a "brunch" at noon, February 21, in the San Francisco Yacht Club.

People in the News

Boyd Confirmed for 3-Year Term on Mediation Board

The Senate on February 5 confirmed President Eisenhower's nomination of Robert O. Boyd for membership on



Robert O. Boyd

the National Mediation Board for a term expiring February 1, 1957. Confirmation had been recommended by the Senate Committee on Labor and

Public Welfare, which made its favorable report January 26.

Mr. Boyd has been serving on N.M.B. since shortly after the first of the year, pursuant to a recess appointment he received from President Eisen-

hower. His service until February 1 was for the remainder of the unexpired term of John Thad Scott Jr., who resigned. His service since February 1 has been on the new three-year term (*Railway Age*, January 4).

Figures of the Week

1953's Net Income Was \$875 Million

Up \$39 million from previous year—Net railway operating income, at \$1.109 million, was up \$31 million

Class I railroads in 1953 had an estimated net income, after interest and rentals, of \$875 million, according to the Bureau of Railway Economics of the Association of American Railroads. That compared with a 1952 net income of \$836 million.

Last year's net railway operating income, before interest and rentals, was \$1,109,434,340, compared with \$1,078,312,684. The former represented a return of 4.18 per cent, while the 1952

result reflected a return of 4.16 per cent.

Estimated results for December showed net income of \$74 million, compared with \$118 million in December 1952. December's net railway operating income was \$77,917,049, compared with \$109,452,504.

The 12 months' figures show that last year's gross was \$10,664,317,337, an increase of 0.8 per cent above 1952's gross of \$10,581,598,621. Operating

October and November Accidents

The I.C.C. has made public its Bureau of Transport Economics and Statistics' preliminary summary of "steam" railway accidents for October

and November 1953, and cumulative totals to the ends of those months. The compilations, subject to revision, follow:

| Item | Month of October | | 10 mos. ended with October | |
|--|------------------|-------|----------------------------|--------|
| | 1953 | 1952 | 1953 | 1952 |
| Number of train accidents* | 787 | 924 | 7,645 | 8,300 |
| Number of accidents resulting in casualties | 44 | 71 | 446 | 458 |
| Number of casualties in train, train-service and nontrain accidents: | | | | |
| Trespassers: | | | | |
| Killed | 91 | 88 | 869 | 868 |
| Injured | 76 | 68 | 839 | 815 |
| Passengers on trains: | | | | |
| (a) In train accidents* | | | | |
| Killed | 77 | 11 | 20 | 192 |
| Injured | 77 | 11 | 510 | 192 |
| (b) In train-service accidents | | | | |
| Killed | 3 | 2 | 19 | 11 |
| Injured | 157 | 150 | 1,504 | 1,458 |
| Travelers not on trains: | | | | |
| Killed | 84 | 78 | 690 | 608 |
| Injured | 27 | 41 | 253 | 301 |
| Employees on duty: | | | | |
| Killed | 1,606 | 1,962 | 16,325 | 16,987 |
| Injured | 155 | 150 | 1,298 | 1,232 |
| All other nontrespassers:** | | | | |
| Killed | 527 | 539 | 4,388 | 4,413 |
| Injured | 276 | 282 | 2,465 | 2,421 |
| Total—All classes of persons: | | | | |
| Killed | 2,527 | 2,815 | 24,256 | 24,473 |
| Injured | | | | |

*Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all persons:

| | | | | |
|---------|-----|-----|-------|-------|
| Killed | 153 | 137 | 1,209 | 1,097 |
| Injured | 384 | 386 | 2,930 | 2,901 |

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of \$325 or more to railway property

**Includes 86 casualties in the month of April not previously reported.

| Item | Month of November | | 11 mos. ended with Nov'mb'r | |
|--|-------------------|-------|-----------------------------|--------|
| | 1953 | 1952 | 1953 | 1952 |
| Number of train accidents* | 671 | 859 | 8,318 | 9,159 |
| Number of accidents resulting in casualties | 43 | 50 | 491 | 508 |
| Number of casualties in train, train-service and nontrain accidents: | | | | |
| Trespassers: | | | | |
| Killed | 72 | 78 | 935 | 946 |
| Injured | 69 | 56 | 911 | 871 |
| Passengers on trains: | | | | |
| (a) In train accidents* | | | | |
| Killed | 1 | 3 | 21 | 193 |
| Injured | 78 | 3 | 1,677 | 193 |
| (b) In train-service accidents | | | | |
| Killed | 118 | 103 | 1,624 | 1,561 |
| Injured | 118 | 103 | 1,624 | 1,561 |
| Travelers not on trains: | | | | |
| Killed | 1 | 7 | 7 | 9 |
| Injured | 67 | 60 | 757 | 668 |
| Employees on duty: | | | | |
| Killed | 29 | 15 | 281 | 316 |
| Injured | 1,471 | 1,774 | 17,805 | 18,761 |
| All other nontrespassers:** | | | | |
| Killed | 138 | 160 | 1,428 | 1,392 |
| Injured | 530 | 665 | 4,919 | 5,078 |
| Total—All classes of persons: | | | | |
| Killed | 241 | 253 | 2,691 | 2,674 |
| Injured | 2,333 | 2,661 | 26,693 | 27,134 |

classes of persons, including both trespassers and nontrespassers, were as follows in October (left) and November (right) of 1953:

| | | | | |
|----------|-----|-----|-------|-------|
| Persons: | | | | |
| Killed | 130 | 153 | 1,340 | 1,250 |
| Injured | 422 | 512 | 3,349 | 3,413 |

in 1952. Beginning January 1, 1953, this minimum was raised to \$350. Only a minor part of the total accidents result in casualties to persons, as noted above.

CLASS I RAILROADS—UNITED STATES

Twelve Months Ended December 31

| | 1953 | 1952 |
|--|------------------|------------------|
| Total operating revenues | \$10,664,317,337 | \$10,581,598,621 |
| Total operating expenses | 8,135,476,779 | 8,053,159,011 |
| Operating ratio—per cent | 76.29 | 76.11 |
| Taxes | 1,184,857,140 | 1,261,904,149 |
| Net railway operating income (Earnings before charges) | 1,109,434,340 | 1,078,312,684 |
| Rate of return (per cent) | 4.18 | 4.16 |
| Net income, after charges (estimated) | 875,000,000 | 836,000,000 |
| Month of December | | |
| Total operating revenues | 815,400,333 | 935,076,544 |
| Total operating expenses | 697,037,851 | 711,349,483 |
| Operating ratio | 85.43 | 76.07 |
| Taxes | 22,000,677 | 97,154,474 |
| Net railway operating income | 77,917,049 | 109,452,504 |
| Estimated net income | 74,000,000 | 118,000,000 |

expenses were up 1 per cent—\$8,135,476,779, compared with \$8,053,159,011.

Fifteen Class I roads failed to earn interest and rentals in 1953, the A.A.R. also reported.

Freight Car Loadings

Loadings of revenue freight in the week ended February 6 totaled 624,385 cars, the Association of American Railroads announced on February 11. This was a decrease of 3,805 cars, or 0.6 per cent, compared with the previous week; a decrease of 66,228 cars, or 9.6 per cent, compared with the corresponding week last year; and a decrease of 109,534 cars, or 14.9 per cent, compared with the equivalent 1952 week.

Loadings of revenue freight for the week ended January 30 totaled 628,190 cars; the summary for that week, compiled by the Car Service Division, A.A.R., follows.

| REVENUE FREIGHT CAR LOADINGS | | | |
|---|-----------|-----------|-----------|
| For the week ended Saturday, January 30 | | | |
| District | 1954 | 1953 | 1952 |
| Eastern | 112,252 | 125,862 | 129,236 |
| Allegheny | 124,073 | 146,192 | 148,064 |
| Poconchos | 45,885 | 50,830 | 58,956 |
| Southern | 118,438 | 128,676 | 132,643 |
| Northwestern | 70,444 | 74,266 | 79,431 |
| Central Western | 103,974 | 112,921 | 119,725 |
| Southwestern | 53,124 | 58,695 | 63,161 |
| Total Western Districts | 227,542 | 245,882 | 252,317 |
| Total All Roads | 628,190 | 697,442 | 731,218 |
| Commodities: | | | |
| Grain and grain products | 44,666 | 46,073 | 53,474 |
| Livestock | 7,032 | 6,753 | 9,147 |
| Coal | 121,901 | 123,031 | 151,338 |
| Coke | 9,541 | 14,835 | 16,246 |
| Forest products | 36,919 | 43,998 | 42,454 |
| Ore | 15,732 | 19,531 | 17,535 |
| Merchandise I.C.I. | 62,762 | 48,891 | 72,362 |
| Miscellaneous | 329,637 | 374,329 | 368,642 |
| January 30 | 628,190 | 697,442 | 731,218 |
| January 23 | 617,226 | 697,515 | 778,015 |
| January 16 | 619,871 | 705,017 | 747,660 |
| January 9 | 624,229 | 688,110 | 744,710 |
| January 2 | 477,805 | 562,957 | 610,116 |
| Cumulative total, five weeks | 2,967,321 | 3,351,041 | 3,561,719 |

In Canada.—Carloadings for the seven-day period ended January 21 totaled 64,484 cars, compared with 66,

521 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

| | Revenue Cars Loaded | Total Cars Rec'd from Connections |
|---------------------|---------------------|-----------------------------------|
| Totals for Canada: | | |
| January 21, 1954 .. | 64,484 | 28,475 |
| January 21, 1953 .. | 73,512 | 31,295 |
| Cumulative Totals: | | |
| January 21, 1954 .. | 182,086 | 76,812 |
| January 21, 1953 .. | 201,425 | 84,679 |

Law & Regulation

I.C.C. Said to Lack Power To Make "Piggyback" Rules

The National Industrial Traffic League believes the I.C.C. lacks authority to prescribe rules governing "piggyback" transportation.

In a motion filed with the commission last week, the league said Section 4 of the Administrative Procedure Act, under which the commission plans to proceed, "does not confer upon the commission . . . a power of rule making."

The league said rule-making authority can come only from the statutes under which an agency operates. It went on to say that Part I of the I.C. Act has "no provision of authority to enter rules or regulations of this character."

Under attack was the January 6 notice in which the I.C.C. assigned to its Division 3 the job of formulating rules

which will enable "piggybacking" to develop "with a minimum of legal controversy and uncertainty" (*Railway Age*, January 18, page 8).

A New Haven petition, filed last October, led to the I.C.C. undertaking. The road asked for a declaratory order, under Section 5(d) of the Administrative Procedure Act, to clear up uncertainties about "piggyback" operations.

The I.C.C. notice of January 6 indicated that Division 3's assignment was "somewhat broader" than what the New Haven asked.

The league's motion called upon the commission to proceed "in orderly course" to hear and determine by declaratory order the questions of law raised by the New Haven. The commission should not, it said, start an "additional and futile internal study" for possible regulations for which its lack of authority is apparent in advance.

As to the league's own position with respect to "piggybacks," the motion had this to say: "The league, as an organization of shippers, is not able at this time to present nor in a position to thoughtfully consider what may be the proper interest of shippers . . . with respect to development of these services."

Meanwhile, to the pending I.C.C. proceeding has been added a complaint against "piggyback" service on the Chicago & North Western.

The Illinois-Minnesota Motor Carriers' Conference said the North Western service between Milwaukee, Wis., and Chicago, and between Green Bay and Chicago, "substantially affects" motor carrier service. The truckers charged the railroad does not hold proper authority from I.C.C. to conduct this service.

Drive Launched to Repeal Federal Transport Taxes

A concerted effort to bring about the elimination of Federal taxes on the transportation of persons and property as a means of stimulating greater business activity and travel has been launched with the formation of the National Conference for Repeal of Taxes on Transportation.

Donald G. Ward, director of transportation of the Mathieson Chemical Corporation, who heads the conference as chairman, said that "these discriminatory taxes, which were largely imposed as a wartime measure, are having a serious effect on the cost of travel and the price of thousands of commodities at a time when there is a dropping off of business."

Organizations representing shippers, travel groups and transportation industries are participating in the activities of the conference, which, according to Mr. Ward, "will move to obtain immediate action in Congress."

The Executive Committee of the conference includes Mr. Ward, W. H. Ott,



A REENACTMENT of the September 5, 1876, golden spike ceremony which inaugurated through rail service between San Francisco and Los Angeles, via Mojave on the Southern Pacific, highlighted a recent excursion of the Railway Club of Southern California from Los Angeles to Caliente, via the Tehachapi Loop. Ralph V. Savms (front center, with sledge), of Los Angeles' Farmers & Merchants National Bank, played the part of Charles Crocker.

Jr., chairman, Legislative Committee, National Industrial Traffic League; W. F. McGrath, executive vice president, American Society of Travel Agents; Robert S. Henry, vice president, Association of American Railroads; Walter W. Belson, assistant to the president, American Trucking Associations; J. D. Durand, secretary, Air Transport Association; F. F. Estes, traffic manager, National Coal Association; J. G. Scott, general counsel, National Association of Motor Bus Operators; Gordon C. Locke, executive secretary, Committee for Pipe Line Companies, and Giles Morrow, president, Freight Forwarders Institute.

Financial

Proxy Battle Looms as NYC Rejects Young's Bid

A proxy battle for control of the New York Central System appeared to be a near-future certainty after the railroad's board of directors, at its regular meeting on February 10, rejected Robert R. Young's request that he and his associate, Allan P. Kirby, be elected members of the board, and that he be named its chairman.

Mr. Young's request was made last month after he and Mr. Kirby sold their holdings of Chesapeake & Ohio stock and reportedly purchased, directly or indirectly, a substantial number of NYC shares. It was ownership of C&O securities which led the Interstate Commerce Commission, some seven years ago, to veto an earlier attempt by Mr. Young to become a director of NYC.

Directors of the latter company explained their position in the following statement, issued immediately after the February 10 meeting:

"The board of directors of the New York Central Railroad Company, at its regular monthly meeting today, gave consideration to the request made by Robert R. Young, chairman of Alleghany Corporation, on behalf of himself and Allan P. Kirby, president of Alleghany Corporation, that they be made members of Central's board of directors and to Mr. Young's insistence that he must become its chairman and chief executive officer.

"The board unanimously decided that it would be inimical to the best interest of the company to grant Mr. Young's request.

"The company contracted some 18 months ago with William White to be its president and chief executive officer and the board is not willing that Mr. White relinquish his position as chief executive officer, nor that the responsibility of management be divided. The board expressed its confidence in Mr. White and his administration and believes it to be in the best interest of the New York Central property and its stockholders that the programs and policies which he has instituted should be permitted to continue. The board considers that these programs and policies are progressing satisfactorily to the benefit of the property. The board

further took note of the adverse effect that would result upon morale of employees and officers of Central's vast system, should the suggested change of management take place.

"The board is generally favorable to the policy which it has heretofore followed of recognizing large holdings of this company's stock by inviting duly qualified owners or representatives of such owners to become directors. But the terms and circumstances of the present request, in the unanimous opinion of the board, make any such recognition undesirable.

"New York Central's board of directors has the responsibility for the welfare of all New York Central security holders and, in taking the position which it has in this matter, the board is convinced that it is acting in their best interest."

In a counter-statement, issued the same evening, Mr. Young denied any desire to "substitute myself for Mr. White as chief operating executive," but called for "an ownership board

FAIR PLAY POLICY NEEDS IMPLEMENTING—WHITE

Strike the shackles of outmoded regulation from the railroads and they will do an even better job of meeting the nation's growing transportation needs, William White, president of the New York Central, said February 12 in an address prepared for delivery at the 47th annual dinner of the Traffic Club of Chicago.

Mr. White urged club members to "help us get the handcuffs off" on the basis of "your own interest in getting the best possible transportation at the lowest possible cost."

The speaker emphasized that railroads are not trying to do away with all regulation. "What we object to is outmoded regulation and over-regulation, and that which regulates merely for the sake of regulating and goes beyond regulation in the public interest."

Mr. White said railroads in the past eight years invested nearly \$9 billion in capital improvements. He described this expenditure as an act of "faith in America's economic future" and "especially faith that the artificial obstacles in the path of railroad prosperity would be removed."

"In part," he continued, "that faith still remains to be vindicated. For the serious handicaps of outmoded regulations, and unequal competitive opportunities which beset the railroads eight years ago are, for the most part, still with us. The declared national transportation policy of fair play remains principally a high-sounding motto—much quoted but little implemented."

He added, "Had these rules of fair play been in effect during the past eight years, or any considerable portion of that time, I can assure you that railroad improvements carried out to give better service to you and our other customers would have been much more than \$9 billion."

with a strong ownership voice in the chair," and indicated he would seek the support of other stockholders to that end.

If the proxy battle develops, it will probably come to a head at the Central's annual meeting, scheduled for May 26. Mr. Young, in his statement, asserted that the stockholders, at that time, "will give the right answer."

Alleghany-C&O Divorce Is Placed Before I.C.C.

The Chesapeake & Ohio has sent two letters to the Interstate Commerce Commission advising the commission of "certain recent developments" which terminated Alleghany Corporation's control over that road.

The letters spelled out in detail the steps taken to effect the divorce—i.e., cancellation of "all contractual, lease and joint salary arrangements" which have existed between the two companies (*Railway Age*, January 25).

Directors of Alleghany owning securities of the C&O have now disposed of such holdings, and C&O directors have now disposed of their Alleghany securities, the I.C.C. was advised.

Among the changes affecting the C&O is the closing of the road's offices in the Chrysler building, New York City. President Walter J. Touhy, who maintained an office in New York, will henceforth have his office "solely in Cleveland."

Thomas J. Deegan, Jr., vice-president of passenger traffic and public relations, has closed his office in New York and has moved his headquarters to Washington, D. C.

The letters to the I.C.C., dated January 27 and February 6 respectively, were signed by Joseph C. Kauffman, vice-president and general counsel of the C&O.

Securities

Chicago & Eastern Illinois.—Recap Plan Approved. — Stockholders have approved the recapitalization plan which calls for exchange, on a par-for-par basis, of class A stock for debentures to be issued by the company (*Railway Age*, January 18, page 30). President C. M. Roddewig said the action will clear the way for presentation of the plan to the Interstate Commerce Commission for approval probably within 30 days. Stockholder approval came at a special meeting held in Chicago February 8. The plan is expected to save the road approximately \$400,000 a year, if the present corporate tax rate continues.

Western Maryland. — *Securities Modification.*—Examiner T. M. Crem-

ins has recommended that the I.C.C. deny this road's request for authority to modify its charter and terms of its outstanding stock. The modification was proposed by the WM to clear up dividend arrearages on the first preferred, eliminate unlimited accumulative provisions and thus clear the way for dividend payments on the second preferred and common shares. New stocks were to be issued in exchange for existing shares.

Examiner Cremins advised the commission that the "primary question" is whether the WM proposal "is within the scope of applicable statutory authority"—Sections 20a and 20b of the I.C. Act. The I.C.C. has held, he said, that such standards include continuity of sound financial condition, marketability of securities, and avoidance of prospective financial difficulties.

The examiner went on to say the record would not support a finding that WM's modification was necessary to assure the road's continued sound financial condition or to avoid financial pitfalls. As to marketability of securities, Examiner Cremins found the evidence "not persuasive" that equity financing would be practicable under this proposal.

"It does not seem to be in the public interest or the interest of the first preferred stockholders to invoke remedial legislation when a railroad is in a financial condition that permits it to continue to meet its current obligations and with every prospect of continuing to pay off some portion of its dividend arrearages so as to liquidate the same within 18 years or less," the examiner said.

Application

NEWBURGH & SOUTH SHORE.—To issue a \$450,000 note to the United States Steel Corporation, to refund an existing note of \$200,000 and to provide additional working capital. The new note would bear interest at 4 per cent, if earned.

Security Price Averages

| | Feb. 9 | Prev. Week | Last Year |
|---|-----------|---------------|--------------|
| Average price of 20 representative railway stocks | 62.29 | 61.40 | 66.99 |
| Average price of 20 representative railway bonds | 94.18 | 93.41 | 94.88 |

Dividends Declared

NEW YORK, NEW HAVEN & HARTFORD.—5% A preferred, \$3, accumulation, payable March 26 to holders of record March 15.

NORTH PENNSYLVANIA.—\$1, quarterly, payable February 25 to holders of record February 18.

PEORIA & EASTERN.—\$2.50, initial, payable April 1 to holders of record March 1.

PITTSBURGH & WEST VIRGINIA.—50c, quarterly, payable March 15 to holders of record February 19.

PITTSBURGH, YOUNGSTOWN & ASHTABULA.—7% preferred, \$1.75, quarterly, payable March 1 to holders of record February 19.

ST. LOUIS-SAN FRANCISCO.—common, 62½¢, payable March 15 to holders of record March 1; 5% A preferred, \$1.25, quarterly, payable March 15, June 15, September 15 and December 15 to holders of record March 1, June 1, September 1 and December 1, respectively.

ST. LOUIS SOUTHWESTERN.—preferred, \$3, payable February 26 to holders of record February 19.

Equipment & Supplies

FREIGHT CARS

4,944 Freight Cars Delivered in January

Deliveries of new domestic freight cars in January 1954 totaled 4,944 compared with 4,456 in December 1953 and 7,981 in January 1953, the Association of American Railroads and the American Railway Car Institute announced jointly February 11.

Orders for 2,953 freight cars were placed by the railroads in January. The backlog of cars on order as of February 1, 1954 was 27,959 compared with 29,950 on January 1.

A breakdown by types of cars ordered and delivered in January and of cars on order as of February 1 follows:

| | Month of January Ordered | As of Feb. 1 Delivered | On Order and Un- delivered |
|--|-----------------------------|------------------------------|----------------------------------|
| Box-Plain | 2,606 | 978 | 10,105 |
| Box-Auto | — | — | 1,000 |
| Flat | — | 431 | 1,832 |
| Gondola | — | 1,040 | 2,945 |
| Hopper | — | 660 | 3,047 |
| Cov. Hopper | 125 | 747 | 2,525 |
| Refr. | 150 | 300 | 3,289 |
| Tank | 47 | 366 | 2,965 |
| Caboose | 25 | 88 | 87 |
| Other | — | 354 | 169 |
| Total | 2,953 | 4,944 | 27,959 |
| Car Builders | 453 | 3,658 | 13,362 |
| Railroad and Private Car Line Shops | 2,500 | 1,286 | 14,597 |

"1/3 of Freight Cars Need Replacement"

"Unless railroads are to surrender to competing forms of transportation, the ordering of new cars—at least consistent with retirements of old ones—is inevitable," Gustav Metzman, chairman and president of the American Railway Car Institute, told the Chicago Association of Commerce & Industry at its February public affairs luncheon.

"More than 1/3 of the entire fleet of 134 million freight cars in existence today," Mr. Metzman said, "has seen more than 25 years of service, and needs replacement. Newer and better cars are on the drawing boards of the car builders—cars designed for greater convenience in loading and unloading, greater protection to lading, and for better service to the shipping public."

"But before railroads can complete a program of car renewal they must have some relief from the onerous burdens of overregulation and be allowed to operate competitively in a climate of equality of opportunity, where prerogatives of management are not upset at every turn, and where they can render a still better service and earn a better return on their investors' money and thereby attract the necessary capital to continue to expand to meet the expanding economy of an expanding America."

LOCOMOTIVES

India Orders 120 Steam Locomotives from Canada

The Canadian Locomotive Company has announced receipt of an order from India for 120 Pacific-type 4-6-2 steam locomotives. Total cost of the locomotives is estimated at \$20,000,000. The builder hopes initial deliveries can be made in 12 months and that all the locomotives will be delivered by the end of 1955.

PASSENGER CARS

GN Orders 22 Dome Cars From Budd Company

Twenty-two dome cars for use on the Great Northern's streamline "Empire Builder" have been ordered from the Budd Company. Delivery of the \$5½-million order is scheduled for beginning of the vacation travel season in June 1955. The road's intention to purchase these cars was reported in *Railway Age*, November 23, 1953, page 15.

Four dome cars will be placed in each of the five "Empire Builder" train sets which provide daily service between Chicago and Seattle and Portland. Three of the cars will be dome coaches, seating 44 passengers on the lower level and 24 in the dome compartment. The fourth will be for sleeping-car passengers, with a full-length upper level accommodating 77 passengers in chair and lounge seats. An additional lounging section seating 34 passengers will be located on the lower level.

The GN said the two additional cars will "be used as extras."

Accounting

Operating Expense Index Revised After 33 Years

The Disbursements Committee of the Accounting Division, Association of American Railroads has completed the first revision in 33 years of the Interstate Commerce Commission's "Index to the Classification of Operating Expenses of Steam Roads."

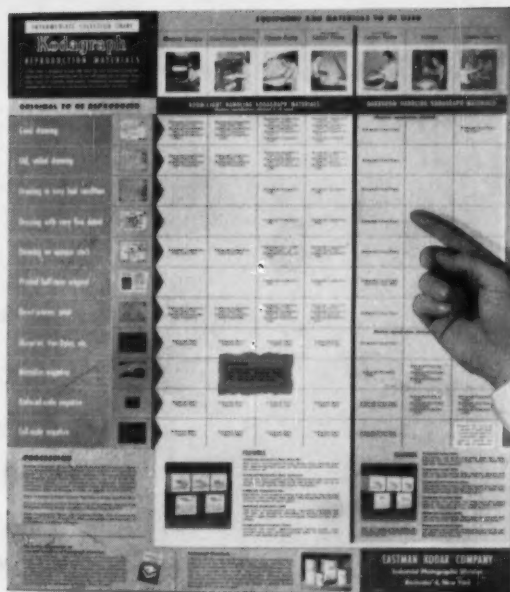
This has been announced by A.A.R. Vice-President A. R. Seder in a recent circular which said the new edition will be available at prices (depending upon demand) ranging from \$1 to \$1.50 per copy. The index was first issued by the commission in 1914, and the latest previous revision was issued in 1920. In its work on the new edition, the Disbursements Committee had the cooperation of the commission's Bureau of Accounts, Cost Finding and Valuation.

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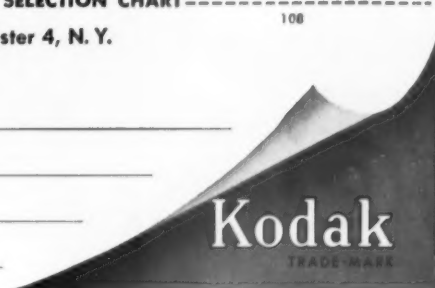
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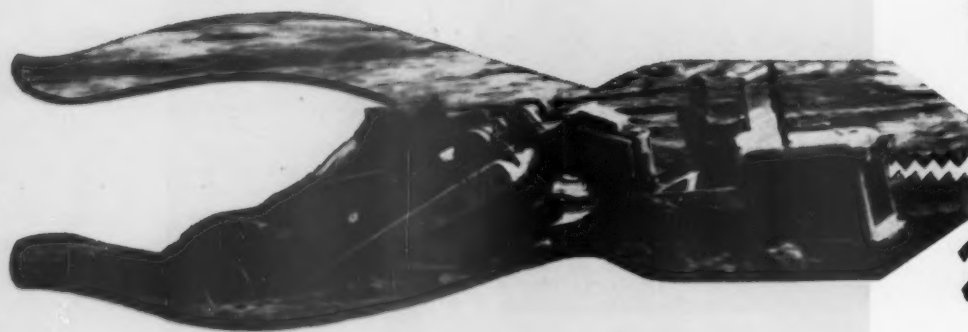
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On production earthmoving, "D" can be used in pusher-fleets, or a pair of "D's" equipped with dozer blades can push-load each other. Bulldozer blade can also stockpile coal . . . spread ballast . . . handle emergency dozing. It can also fill around culverts, clean ditches, and handle other dozer assignments.

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By self-loading, "D" eliminates shovels and multiple haul units. With top speed comparable to trucks, Tournapull hauls fast over highways, over rough roads and along right-of-way . . . goes places where a truck cannot. Its big, single tires roll over tracks, ties, and rocky footing as easily as small tires roll over gravel.





The D Tournapull is *one-man work crew* which will speed both normal and emergency service anywhere in your division. Ready to work at a moment's notice, this 122 hp machine takes shortest route between jobs at speeds up to 28 mph. It can travel over highway, cross-country or along right-of-way.



Fast moves away from track are readily made at the approach of traffic. Less than a minute after train is past, "D" is back on job. No time is lost dead-heading work train to nearest siding. Through traffic stays on schedule. Wasted work time, headaches of supervision, dispatching, and signaling are eliminated.



Easily mounted, correctly curved V-type Snow Plow, makes "D" efficient for snow service. With power-proportioning differential, unit goes anywhere to open yards, sidings, loading tracks, crossings, access roads . . . saves rail snow plows for main-line plowing. Scraper can also be used to load and haul away snow and ice.

work trains and crews on scattered jobs

to crawler-scrapers or shovels and trucks

With turn radius of 12'8", instant electric controls, and speeds to 28 mph, Tournapull can *double or triple* output of crawler-scrapers on most hauls. Four tires replace over 500 wearing parts of crawler track assembly which constantly grind in grit . . . outlast a set of tracks as much as 4 to 1 in some soils.

Large, square, top opening allows fast, easy loading of ballast or other material from hopper. Washwater quickly drains away . . . eliminates hauling unnecessary weight. Big 9-ton, 7-yard capacity bowl is unloaded in seconds . . . load can be spread in layers 1" to 26½" deep, or piled in one place.

Tournapull's large bowl carries tools, supplies, and extra fuel to job site. No need to wait for work-train. There are no delays for loading or unloading machine from flat car or trailer, no time wasted planking to take crawlers over tracks. Unproductive time when shovel waits for trucks or cars is eliminated.



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Supply Trade

E. Q. Sylvester Heads Griffin Wheel Company

E. Q. Sylvester has been named president of the Griffin Wheel Company, Chicago, as this column has already briefly recorded.

After receiving a B.S. degree in mechanical engineering from Massachusetts Institute of Technology in 1934, Mr. Sylvester worked first for a milk cooler manufacturer, and later for a tool steel jobber, where he became chief metallurgist.

Returning to M.I.T. for graduate work in mechanical engineering and metallurgy, he designed and built metals fatigue machines; worked with A. B. DeForrest in development of Magnaflex and Magnaglo methods of metals inspection; and developed an electric strain gage. When American



E. Q. Sylvester

Steel Foundries bought one of the fatigue machines in 1937, Mr. Sylvester was retained by the company to institute a metals research program. A year later he joined the company's engineering staff and in 1940 was transferred to its Griffin Wheel Company division and placed in charge of sales in New England territory. After four years in Boston, where he devoted much of his time to design of a quenched iron wheel, he returned to Chicago as assistant to president of Griffin. In 1947 he became vice-president and a director, and in 1952 was promoted to executive vice-president. He was also named president of Griffin Steel Foundries, Ltd., which has a plant at St. Hyacinth, Que. He assumed his present post last December.

R. E. Poindexter, lubrication engineer of the Motor Oils Refining Company, Lyons, Ill., has been appointed general sales manager there.

David B. Sloan, executive vice-president of Gibbs & Hill, Inc., has been elected president, succeeding **E. C. Johnson**, resigned because of ill



HOWARD M. PALMER, general sales manager of Lewis-Shepard Products, Inc., who has been appointed sales vice-president.

health. **Edward H. Anson** has been elected senior vice-president, and **John B. Saxe**, vice-president and chief engineer.

Chester A. Olsen has been appointed sales and service representative of the Rail & Flange Lubricator Co.'s midwest region at Chicago.

Stanley H. Smith Company has appointed **R. E. Schatmeyer** as sales manager and **John J. Schneider** to its sales staff. Mr. Schatmeyer has been with the firm since 1939; Mr. Schneider was formerly with the Terminal Supply Company in Cleveland.

J. M. Weldon, who has held various assignments in the sales, executive and other departments of International Nickel Company, has been transferred to the general sales department as assistant to vice-president. **C. J. Bianowicz** has been named



H. E. ELLIOTT, who has been named sales manager of Watson-Stillman Company, division of H. K. Porter Company, has been associated with the company for many years in sales and engineering.

manager of the nickel alloys department, succeeding the late **H. D. Tietz**. He was previously in charge of the department's industrial sales. **D. W. Machon** has been appointed head of a newly established cobalt section of the nickel sales department.

August Stang, Jr., manager of lamp sales of Graybar Electric Company at Philadelphia, has been appointed manager of the Allentown, Pa., branch.

Weaver E. Falberg, manager of the alloy steel division of Joseph T. Ryerson & Son, Inc., at Chicago, has been appointed assistant general manager of sales at that point. Named as sales manager there is **Alfred J. Olson**, assistant sales manager.

Ralph A. Corley, Jr., who has been active in the railway supply field for some 15 years, has set up a railway sales agency, known as Red-Co., at 90 West street, New York.

Sam A. Seckler, assistant district sales manager of Republic Steel Corporation, at Chicago, has been named assistant manager of sales for the alloy steel division, at Massillon, Ohio, succeeding **Clyde E. Roberts**, promoted (*Railway Age*, January 11).

Edward T. Doherty has been elected president of the Apex Railway Products Company and the M & J Diesel Locomotive Filter Corp., at Chicago succeeding **L. F. Duffy**, who has resigned.

Charles B. Baker, executive vice-president of Universal Atlas Cement Company, a subsidiary of United States Steel Corporation, has been elected president, succeeding **Blaine S. Smith**, who retired December 31.

The Hyster Company has appointed **Bode-Finn Company**, of Cincinnati and Dayton, Ohio, as dealers for Hyster industrial truck equipment in southwestern Ohio, northern Kentucky and southeastern Indiana.

Richard C. Booth, paint chemist and process engineer, has been added to the technical service staff of Wyandotte Chemicals Corporation, at Los Angeles.

A. B. Drastrup, manager of steel sales and assistant to president of **A. M. Byers Company**, has been elected executive vice-president. **J. F. Byers, Jr.**, assistant to president, and **B. M. Byers**, general manager of wrought iron sales, also have been elected vice-presidents, the latter in charge of sales.

Richard L. Duchossois has been appointed president of the Thrall Car Manufacturing Company, Chicago Heights, Ill., to succeed **A. J. Thrall**, who has been named chairman of the board. **Jerome A. Thrall** becomes executive vice-president.



YARDMASTERS AND OPERATORS in wayside offices use radio to talk to crews of through trains enroute.

How Radio Helps the T&P

Extensive use of end-to-end and train-to-wayside radio on freight and passenger trains reduces delays and betters service

Excellent time savings are being accomplished by an extensive installation of road-train radio on the Texas & Pacific, including radio on 83 freight locomotives, 18 passenger locomotives, 79 cabooses, and a derrick, as well as in 15 wayside offices. The locomotives and cabooses are in through train service on more than 1,300 miles of line between New Orleans and El Paso; Texarkana and Marshall, and Fort Worth and Denison. There are 13 wayside radio stations on the Texarkana-Fort Worth section, as well as at El Paso and Baird, Tex. Two-way radio communication is thus available between these offices and passenger and freight trains in the range of each office.

Traffic varies on different sections of the railroad, ranging up to 16 passenger trains and 34 freights daily. Terrain runs from flat land in Louisiana through rolling hills in east Texas to mountains in west Texas.

How Radio Started on T&P

This extensive radio project stemmed from an experiment in 1949, when the T&P made a three-month test of radio for end-to-end communication on a freight train between Fort Worth and El Paso. Checks indicated that the radio was a means for making a 5.5 per cent reduction in delay time. For example, the radio reduced the time necessary for the test train to enter a siding prior to a meet with another train, and likewise reduced the amount of time required for the train to leave the siding and resume speed, simply because the conductor "talked the train in and out of the siding." In emergencies, when the train was delayed by broken knuckles, pulled drawbars, or hot boxes, the radio also reduced this delay time.

The crew was enthusiastic about the radio, because it not only was a time saver, but a step saver, especially when a hot box occurred near the front of the train. After the train stopped, the head brakeman attended to it. Then he got back in the cab and called the conductor on the radio, giving the name and number of the car involved. Otherwise, the conductor would have had to walk the length of the train to get the number, or both men would



HEAVY LINE REPRESENTS territory where preponderance of radio equipped freight trains operate.



RADIO EQUIPPED CABOOSES are used on through freight trains between Texarkana and El Paso.

have had to walk at least half-way to meet. In addition, the conductor was notified by radio as to the reason for the train stopping.

Project Initiated in 1950

The radio project began with the installation of radio equipment on four diesel locomotives and four cabooses in freight service between Fort Worth and Osawatomie, Kan., via Denison, Tex., and Muskogee, Okla. The equipment operates in a pool with equipment of the Kansas, Oklahoma & Gulf and the Missouri Pacific.

In 1951, the T&P installed radio on 44 freight diesels and 50 cabooses, and in 1952 on 35 freight and 18 passenger diesels, and 25 cabooses. Also in 1952 the T&P installed its first wayside radio station at Baird, 140 miles west of Fort Worth. In 1953, 14 more wayside radio stations were installed, one at El Paso and the remainder in the Fort Worth-Texarkana territory. Also, radio was installed on the wrecker derrick which operates out of Fort Worth.

For the future the T&P plans to expand the train-to-wayside installation program and to begin yard and terminal installations. Wayside base stations are to be installed from Shreveport to Marshall, and from Fort Worth to Toyah, Tex. Plans also include a yard and terminal base station at Fort Worth with 15 radio-equipped diesel switchers.

How Walkie-Talkies Help

The T&P has found a new use for walkie-talkies. The road foreman of engines rides in one of the rear cars on a passenger train and talks to the engineman via radio about how he is handling the train. Although this is a temporary arrangement, it has been useful for providing the engineman with prompt information about starting and stopping the train. Thus the enginemen have been able more quickly to remedy errors in the technique

EXAMPLES OF REDUCED DELAYS TO TRAINS

- Recently, Second 54 had a brake beam down on the 25th car at 1:30 a.m. The engineman and conductor consulted via radio, got the beam fixed, and were on their way in 25 minutes. The crew called a nearby wayside station and told the operator of the difficulty. This information was relayed to the dispatcher. When the train was ready to go, the crew again notified the wayside office, which in turn called the dispatcher. The radio not only saved time for the crew in getting the train under way again, but it also assisted the dispatcher in coordinating train moves by giving him full information regarding the delay.

- The radio has saved time for trains which must set out or pick up cars at Longview. Crews are now able to call into the wayside office and receive information concerning work to be done at either end of the yard. Previously a train had to pull down into the yard so the crew could telephone in to find out what work was to be done. Often they would have to double back to set out cars at the end of the yard that they had just passed. Now they find out before they enter the yard, sometimes as far out as 10 or 15 miles.

- Trains now save time in entering the yard at Baird. Radio makes it possible for the crews to determine before arrival what track to use. Heretofore it has been necessary for them to stop and phone in, or else get a message down the line. In addition, the yard movements are expedited through the use of radio because the yardmaster is in constant touch with crews on engines that are performing the switching. Since there are no switch engines at Baird, the switching is performed by road crews.

- The El Paso wayside radio station has been of help in expediting the arrival and departure of freight trains. From the yard, a 1.6-mile section of single track extends to a junction with the double-track main line eastward. Formerly if an eastward outbound train was in the yard ready to leave when a westward inbound train on the double track was due, the train in the yard had to wait until arrival of the other train. Now, if the westward train is delayed while still on the double track, the crew can notify the dispatcher through the operator at the wayside radio station. Thus he is able to authorize the waiting train to move out of the yard, over the single track and onto the double track, while the other train is still in double-track territory.

- A street crosses the El Paso yard at grade. At this crossing is a telephone handset that is wire-connected to operate the wayside radio station at El Paso. If a train that has been stopped must be cut for the crossing, a trainman uses the handset at the crossing to talk, via radio, to the engineman. This saves time, and increases safety as compared with the previous practice of using hand signals, because curves necessitated as many as four men to pass hand signals.

of starting and stopping diesel-powered passenger trains which might have caused rough handling. Prior to this use of radio, the engineman had to guess more or less whether he was getting smooth starts and stops.

Another way radio has helped on the T&P is that crews and wayside station operators can quickly inform each

(Continued on page 40)

CORROSION



**IT CAN'T
HAPPEN
HERE!**

Intensive studies made by railway authorities show that one-third of the total cost for freight car repairs is attributable to corrosion damage. High resistance to corrosion, eliminating costly maintenance, is one of the many advantages of Commonwealth *one-piece cast steel* underframes for freight cars.

Since 1927, several hundred gondola cars with Commonwealth cast steel underframes have been in continuous sulphur carrying service and have been exposed to the consequent chemical actions as well as to all types of atmospheric conditions. Periodic inspections of these cars have revealed practically no evidence of deterioration in the cast steel underframes. They

have presented no maintenance problems and orders have been duplicated several times.

For flat cars, pulpwood cars, sulphur carrying cars, ore cars, depressed center cars, and others, Commonwealth one-piece underframes with metal distributed to the greatest advantage, provide exceptional strength without increase in weight, and eliminate welded or riveted joints or connections. Thus, in addition to providing increased resistance to corrosion, other maintenance costs are eliminated and *maximum availability* of equipment is obtained.

For true upkeep economy and long dependable service-life, build your cars with Commonwealth Cast Steel Underframes.



GENERAL STEEL CASTINGS

GRANITE CITY, ILL.

EDDYSTONE, PA.



El Capitan Passenger Increase
expressed in terms of percentage
gain over first year's operation.

1938

1939

1940

1941

1942

1943

1944

1945

1946

1947

1948

Demonstration by El Capitan

● The Santa Fe's El Capitan provides a striking example of how fine equipment, convenient schedules and frequent service can attract passengers to the rails and *keep them there*.

El Capitan started out in 1938 as a five car train on a twice weekly schedule, Chicago-Los Angeles. Running time, thirty-nine and three quarters hours, with 7.15 AM arrivals at both terminals.

In 1946 the trains were given an every-other-day schedule. In 1948, daily. Consist, 12 cars.

Look what happened *after* the war time traffic jam was over. The graph expresses traffic increase in terms of percentage related to the first year.

Budd is proud to have built the first El Capitan trains . . . is now delivering head-end cars, chair cars, and full length dome-lounge cars, many of which will soon be seen in these famous trains.

The Budd Company, Phila. 15.



1948

1949

1950

1951

1952

1953

Budd

PIONEERS IN BETTER TRANSPORTATION



DIESEL ROAD SWITCHER

Detroit and Mackinac Railroad Company

Hard-working road switchers on the Detroit and Mackinac railroad use...

● Alco-G.E. 1500 h.p. road switchers keep tonnage freights rolling on schedule over the Detroit and Mackinac railroad in northeastern Michigan. In this tough service, STANDARD HD Oil has supplied effective lubrication for these units. Used for over five years, it has given ample evidence of its ability to help keep maintenance costs low and availability high.

STANDARD HD is now used by over 70 railroads for all types of diesel service. Make this acceptance your basis for investigating the benefits offered by this superior heavy-duty lubricant. A Standard Oil Railway Department representative, through his ex-



tensive experience, can help you obtain more effective lubrication. For his services, write Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY



(Indiana)

I.C.C. Warns of Common Carriers' Troubles

The annual report of the Interstate Commerce Commission — which was briefly reviewed in our last week's issue — reveals that body, as usual, greatly preoccupied with its heavy burden of detail. Like most of the rest of us, the regulators seem to find it difficult to stand apart objectively from all this seeming confusion of multiplicity — to see whether, perhaps, some valid general conclusions might be drawn which would simplify the problem considerably.

Our own (perhaps prejudiced or mistaken) opinion is that specific evidence adduced by the I.C.C. in this report points unmistakably to some rather sweeping conclusions in the area of regulatory policy — but that the I.C.C. leaves these conclusions unsaid. Let's look at some of this evidence—

The report draws attention to the "buy and sell" activities of private truckers—whereby many of these operators "purchase" the freight they are to carry, having arranged in advance to "sell" it to a consignee at destination, at a price sufficiently above the "purchase" price to pay an agreed transportation charge. In this manner, uncertificated private carriers divert convenient cargos away from the common carriers; and they also evade the excise tax on transportation charges.

The commission admits that it is usually impossible to tell whether such transactions are bona fide merchandising ventures or plain subterfuge. It warns Congress that the practice is reaching such proportions as to work serious injury on the for-hire carriers; and that it endangers the "sound economic conditions" in transportation which Congress has set forth as the objective of public policy. The commission certainly has an adequate concept of the problem, but if it knows what the solution should be, it doesn't say what.

On the question of "trip leasing" of trucks, the commission's report also provides a clear exposition of the condition and of the regulators' sincere effort to deal with the problem by regulation. The report goes on to reveal, however, that the commission was moved to water down its original order forbidding this practice; and it sets forth how any effective limitation at all on this practice is now threatened by pending legislation.

At another place in the report the commission discloses, not only that private transportation by truck has been growing materially, but that the greatest growth in truck transportation has occurred among those carriers which are entirely exempt from regulation under the Interstate Commerce Act. As with truck transportation—so with transportation by water. Over half the tonnage moved on coastal and inland waterways is exempt from I.C.C. regulation. And, of course, more than 85 per cent of all passenger transportation is provided by private automobile.

Unequal Regulation Is a Threat

All the foregoing statements from the I.C.C.'s report add up, as we see it, to the unescapable conclusion that transportation by common carriers is seriously handicapped and, in fact, threatened by the unequal conditions existing in transportation regulation. Nevertheless, in the face of these adverse conditions for the common carriers, the commission has made no specific recommendations to Congress except as to the "trip leasing" practice—and, even there, the recommendation was amended, and runs the risk of being overridden entirely by Congress.

How can the growing difficulties of the common carriers be corrected? There appear to be two possible roads (and only two) to that end. One would be that of severely limiting or prohibiting private transportation; and closely regulating all for-hire transportation equally, without any exemptions whatsoever. The political difficulties of such a course are so great as to make that proposal wholly academic. But, if equality isn't to be obtained by regulating everybody alike, then what alternative remains—assuming regulatory equality to be necessary to the health of the common carriers—except to *permit common carriers to meet the competition of unregulated or half-regulated carriers, without thereby involving their regular rate structures?*

Perhaps additional legislation would be required to give common carriers a full measure of freedom in this regard. If so, shouldn't the commission recommend such legislation to Congress? Quite likely, though, a lot more freedom than they now have could be given to the common carriers within the I.C.C.'s discretionary powers—if freedom for the common carriers rather than regulation for the "other fellow" were the recognized and accepted goal of regulation. Somebody ought to decide, one of these days, which way regulatory policy should move; or *can* move.



ABOVE—Recent findings bearing on the causes of shelly rail may lead to a new approach to the solution of this problem. **RIGHT**—A new formula will help prevent embankment failures such as this, caused by collapse of the foundation material.



Findings of Engineering Staff

What's New in A.A.R. Research—I...

Current studies have produced significant new information on several track and bridge problems—New projects being undertaken

Working out of its laboratory-headquarters at Chicago, the research organization of the Engineering Division of the Association of American Railroads is currently carrying on a far-flung series of research projects (see table) on which the amount expended is approaching the \$400,000 mark annually. Out of this work are coming findings designed to aid the railroads in their use of materials and devices going into the construction and maintenance of tracks and structures.

Specifically, what have been some of the recent discoveries that conceivably may prove helpful to the railroads? This question was put to G. M. Magee, director of engineering research of the Engineering Division. The ensuing discussion produced information on a number of recent developments of more than passing interest to the railroads as a whole. Mr. Magee also outlined briefly the plans being made for carrying out several of the more interesting research projects that have just been authorized.

The Shelly-Rail Problem

One of the more important studies now underway is the continuing investigation of the shelly-rail problem. In this connection the three-dimensional photoelastic studies that have been made to determine the principal stresses and maximum shear within the head of a rail-

road rail are the first known applications of this technique to a major practical problem. This investigation was carried out using a 2/3-scale, three-dimensional Fosterite (plastic) model of a rail head and web and of a worn-tread car wheel. Both were modeled from the prototypes of a 132-lb. RE rail and the average contour of a 33-in. diameter worn wheel tread. The investigation was set up using a combination of vertical and lateral loading to simulate actual track conditions.

Also important in pointing the way to what may well be a new approach to the shelly-rail problem was the discovery, in connection with another related investigation, that fatigue due to shear, heretofore thought to be the cause of rail shelling, is not the culprit after all. Rather it is now believed that the reversal between high compressive and low tensile stresses, in the ratio of about 7:1, is the fatigue-producing agent that results in shelly rail.

This conclusion was reached during an investigation of the "effect of wheel diameter and wheel load on extent of rail damage" in connection with a project being carried out for the Joint Committee on Relation Between Track and Equipment of the A.A.R. It was found that the values of shear produced in a rail specimen were far too low to attribute failure to shearing stress alone. On the other hand the recorded reversal between measured compressive and tensile stress values in the



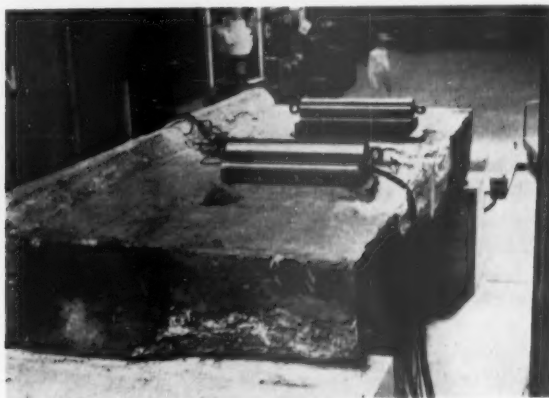
RAIL WEAR TESTS on 7-deg. 30-min. curve on the Bessemer & Lake Erie were conducted to measure the . . .



. . . **METAL ABRADED** from gage side of high rail to determine abrasive action of locomotive and cars.



DETERIORATED CONCRETE SLAB in a bridge on the Burlington before removal to Denver for . . .



. . . **TEST TO DESTRUCTION** in 5,000,000-lb. testing machine. Tested slabs carried $3\frac{1}{2}$ times design load.

critical zone of the rail head fall into place almost perfectly in a modified Goodman diagram constructed from data obtained from an earlier investigation of fatigue strength of rail webs. Apparently, the fatigue life of rail-head specimens under laboratory wheel loads is determined by the reversal of compressive and tensile stresses rather than shearing stresses.

Mr. Magee said this was an excellent example of the value of coordinated research where the findings of one investigation may be applied to the problems of another.

Stability of Fills Now Predictable

The question of the stability of embankments has often been raised because of the trend toward the replacement of trestles over valleys with fills and short bridge spans or culverts. An investigation was carried out to determine the maximum permissible height of fill that may be placed on a given foundation material. The results indicate that the maximum permissible load on foundation material is equal to approximately 2.57 times the unconfined compressive strength of this material. The research staff believes that a determination of maximum permissible height should be made on this basis whenever a fill of any appreciable height is to be placed on an old lake bed or alluvial valley where soft

clay deposits may be suspected. Should the results indicate possible future difficulty, a more complete exploration is recommended.

One of the significant services performed by the A.A.R. research staff is the investigation of problems besetting particular roads. This is well illustrated by a recently completed study on the Bessemer & Lake Erie. On this road it was noticed that the high rails on curves were being severely abraded following a switch from 2-10-4 steam locomotives to diesel locomotives in handling ore traffic. It appeared obvious that the introduction of the diesel power was the cause of this accelerated rail wear. As a result the research organization was asked to make an inspection and recommend preventive measures.

Observation showed that accelerated wear and severe gouging were taking place on curves not protected by rail lubricators, and which had not previously shown wear. Inspection of the wheels of the diesel units and of the ore cars showed the same gouging condition on the wheel flanges. On curves that were protected by rail lubricators the high rail showed a smoothly polished surface when the grease was removed, with no evidence of the wear and gouging found on the unlubricated curves. It was therefore evident that adequate lubrication would prevent the rail wear.

Further investigation developed that the 2-10-4 steam



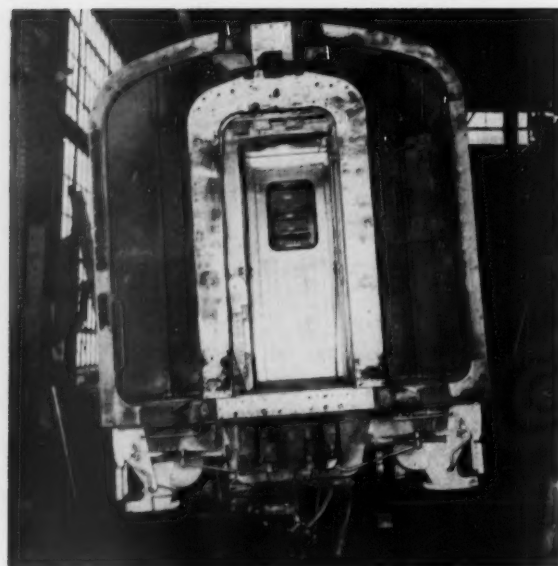
TIMBER SPECIMEN, coated with fire-retardant material, being subjected to high temperature test in a fire chamber.

locomotives had been equipped with flange oilers, whereas no such flange oilers were in use on the diesel units. Further, there appeared to be no logical reason why the four-wheel trucks of a diesel unit should produce more rail wear than those of the heavy ore cars. It was apparent, therefore, that the flange oilers on the steam locomotive provided a substantial degree of protection from rail wear, not only from the locomotives but from the entire train, which was no longer afforded when diesel locomotives without flange oilers were operated.

To confirm these observations a series of tests was made in which the material abraded from the rails was collected and measured separately for the diesel locomotives and cars. From these tests, it was concluded that the rate of rail and wheel wear for a diesel unit is somewhat greater than for a heavily loaded freight car due to the longer wheel base of the diesel trucks, but that by far the greater amount of wear is due to the cars in the train rather than the diesel units. The answer to the curve-wear problem on the B&LE, as recommended by the research staff, was the provision of means, either in the form of rail lubricators or flange oilers, or both, for adequately lubricating the high rails on curves.

Safety of Old Concrete Slabs

Some interesting conclusions may be drawn from the results of tests of full-size concrete slabs in the laboratory of the U.S. Bureau of Reclamation at Denver. The test was conducted there because the 5,000,000-lb. testing machine had sufficient distance between the screws to accommodate full-size slabs. This project involved testing to destruction two slabs, both over 40 years old, which had been removed from service on the Chicago, Burlington & Quincy because of deterioration of the concrete. The significant facts are that the old slabs carried $3\frac{1}{2}$ times their design load before failure, and



LEAN TESTS on passenger equipment were made to accumulate data for determining clearance requirements.

that there was a definite indication of impending distress well in advance of the actual failures. In view of this finding railroad bridge inspectors may have more latitude than formerly in condemning old concrete bridge slabs on the basis of appearance alone.

Fireproofing Timber Bridges

One of the more interesting research projects now in progress is that in connection with the development and testing of fire-retardant coatings for timbers. A large amount of field and laboratory research has been carried out to determine the requirements of these coatings, and a method is being developed for evaluating their resistance both to sudden flash fires, as typified by burning tumble weeds, and to fires of the slower burning type. In addition, these protective coatings must be resistant to very high temperatures concentrated at one spot, such as would be found in the case of a burning fusee.

Manufacturers are being urged to develop and submit types of coatings which will resist the tests set up by the laboratory for weathering, temperature, insulation, bonding and application. The laboratory is also developing a technique and screening device to be used as the basis for specifications to be written and which, when released, will permit individual railroads to evaluate a given fire-retardant coating when it is presented.

Studies of Repair Welding

A new investigation into the problem of rail-end batter will be started in 1954. For this project 100 battered rail ends have been secured, all of which have carried the same traffic tonnage. These rail ends will be built up, under controlled laboratory conditions, by the use of various welding methods and rods. They will then be subjected to rolling-load tests. Metallurgical tests will be made of the weld metal and the adjacent rail

steel in an effort to establish a uniform specification for the repair of battered rail ends.

Preliminary work is under way in connection with the investigation of welding heat-treated carbon-steel frogs and switches. This project did not get started in 1953 due to the press of other work, but it is expected that significant results will develop from this year's endeavors. Plans call for the assembly of three 39-ft. units, each including eight simulated 90-deg. railroad crossing points and flange intersections. These assemblies will consist of 132-lb. RE rail and will be composed of short pieces of rail, one each of heat-treated control-cooled rail from rolling mills of three different steel companies, one section of chrome-vanadium rail used on the Norfolk & Western, one each of flame-hardened rail from three fabricators of special trackwork and one section of untreated control-cooled rail to be used as a control. These panels will be laid in the heavy-duty freight main line of the Milwaukee near Bensenville, Ill.

New Factors Affect Clearances

Data developed during an investigation of passenger riding comfort on curves have indicated the importance of the effect of new lightweight passenger cars equipped with long-travel springs on clearances on curves having close track centers in multiple-track districts. The factors involved in these clearances include the car width, the side overhang at the ends and the center of the car, the lateral play in the truck parts and between the wheel and the rail—on all of which reasonably accurate information is available.

However, three other factors must also be taken into consideration: the tilting of the car on the springs, its lateral movement on the swing hangers, and allowance to provide for track-center deviations and lurching of the car due to track irregularities. Information on the first two of these factors has been obtained in tests with eleven types of modern cars by making static lean tests to determine the lateral displacement and tilting of the car on its springs, with various amounts of super-elevation, in the standing position. These data have also been correlated with lean measurements taken while the car was running above the speed of elevation, using a gyroscope indicator. Data required for determining the allowance for track variations and irregularities has also been obtained from this same gyroscope equipment. The research staff anticipates having a complete report available within the near future, not only on the riding comfort on curve tests but also on the clearance tests.

Increased Funds for Rail Design

The rail design investigation for which \$9,600 was appropriated in 1953 has been granted an increased appropriation of \$14,000 for 1954. This investigation includes in its scope the problems of rail-web failures within the joint bars. Rail-end failures are of two types, cracks in the upper fillet area and bolt-hole cracks. Currently work is being carried forward to ascertain the effects of bolt-hole finish as a stress raiser in the development of these cracks.

A Sonntag repeated-load testing machine is being employed in this work. This machine is capable of applying reversed tensile and compressive stresses in the webs

SUMMARY OF RESEARCH PROJECTS* ENGINEERING DIVISION

| | 1953 Budget | 1954 Budget |
|--|------------------|------------------|
| Committee on Rail | | |
| Transverse fissure investigation | \$ 5,600 | \$ 5,590 |
| Shelly spots investigation | 14,800 | 14,685 |
| Rail failure statistics | 8,850 | 8,860 |
| Service tests of joint bars | 4,100 | 4,357 |
| Rolling-load tests of joint bars | 11,750 | 12,225 |
| Rail design investigation | 9,600 | 14,000 |
| †Rail-end batter | 0 | 5,000 |
| Tests with 78-ft. rail | 5,100 | 5,145 |
| Total | \$ 59,800 | \$ 69,862 |
| Committee on Track | | |
| Tie plates, stresses | \$ 6,200 | \$ 5,860 |
| Bolt tension and joint lubrication | 4,200 | 3,920 |
| Corrosion from brine drippings | 10,200 | 11,630 |
| Stresses in manganese frogs | 6,800 | 4,500 |
| Tests of rail anchorage | 5,000 | 4,500 |
| Tie plate fastenings | 8,200 | 14,420 |
| Welding carbon steel frogs and switches | 5,000 | 7,500 |
| Total | \$ 45,600 | \$ 52,330 |
| Relation Between Track and Equipment | | |
| Relation wheel load to wheel diameter.... | \$ 5,167 | \$ 5,225 |
| Relation wheel-track curvature | 10,333 | 2,225 |
| †Clearance requirements | 0 | 8,000 |
| Total | \$ 15,500 | \$ 15,450 |
| Committee on Roadway and Ballast | | |
| Roadbed stabilization | \$ 24,250 | \$ 26,000 |
| Ballast tests | 6,550 | 8,000 |
| Vegetation control by chemicals | 12,800 | 13,260 |
| Total | \$ 43,600 | \$ 47,260 |
| Committee on Ties | | |
| Wear and splitting of ties | \$ 10,000 | \$ 12,000 |
| Total | \$ 10,000 | \$ 12,000 |
| Structural Projects | | |
| Bridge impact investigation | \$ 79,700 | \$ 78,305 |
| Stress in bridge frames | 8,500 | 9,750 |
| Riveted and bolted structural joints | 10,000 | 10,000 |
| Column Research Council | 3,000 | 3,000 |
| Steel Structural Painting Council | 10,000 | 10,000 |
| Timber stringer tests | 5,200 | 6,000 |
| Performance of fire retardants | 5,200 | 5,260 |
| Concrete deterioration | 10,200 | 10,200 |
| Reinforced Concrete Research Council | 5,000 | 5,000 |
| Strength of timber bolted joints | 3,200 | 3,200 |
| Tests of membrane waterproofing material | 5,500 | 6,172 |
| Tests of bituminous materials | 8,200 | 9,208 |
| Wind loads on buildings | 1,000 | 1,000 |
| Total | \$154,700 | \$157,095 |
| Administration | | |
| Research Office | \$ 34,900 | \$ 36,310 |
| Total | \$ 34,900 | \$ 36,310 |
| Grand Total | \$364,100 | \$390,307 |

† New Projects in 1954.

* This table has been set up categorically to show the relationship of the A.R.E. projects to the work of the various committees of the American Railway Engineering Association. Most of the individual projects are initiated and sponsored by these committees.

of short lengths of rail at a rate of more than two million cycles a day. The specimens are tested under different stress ranges and the number of cycles required to develop failure is determined. It has been found that the gouges and burrs around the edges of the bolt holes are important as stress raisers as is also the brand stamped on the rail web. These tests are being continued into 1954 to determine the beneficial effects of various special finishes of the bolt holes in reducing the stresses.

(Part II begins on page 34)

170,000 freight cars have been built



ONE of the original 100 covered hopper cars, series 58000, put into service by Seaboard Air Line in 1935. Doors are raised to show their "good-as-new" condition today. Made of USS COR-TEN steel—with a yield point $1\frac{1}{2}$ times that of carbon steel—these doors have superior strength and toughness to stand up under service. The high corrosion resistance of COR-TEN steel is also an important factor that contributes to their unusual durability.



USS HIGH STRENGTH STEEL

better with USS COR-TEN steel since 1933

In phosphate-hauling hoppers on the Seaboard Air Line *18 years of service without renewals or replacements* proves life-increasing properties of USS COR-TEN steel

IN 1935, the Seaboard Air Line Railroad equipped 100 phosphate hopper cars (Series 58000) with USS COR-TEN steel roofs and hopper doors. Despite the fact that in this type of ore transport, roofs and hopper doors bear the brunt of punishment, and though these cars have been in continuous service for the past 18 years, not one door or roof has had to be replaced because of wearing out.

Here is a typical example of COR-TEN steel's ability to minimize maintenance under quite severe operating conditions.

Just consider these facts. Although the phosphate ore is handled dry in these covered hoppers, atmospheric moisture combines with the ore to form corrosive phosphate compounds. As a result, the metal ultimately rusts out—sooner in the case of ordinary steel—very much later with USS COR-TEN steel.

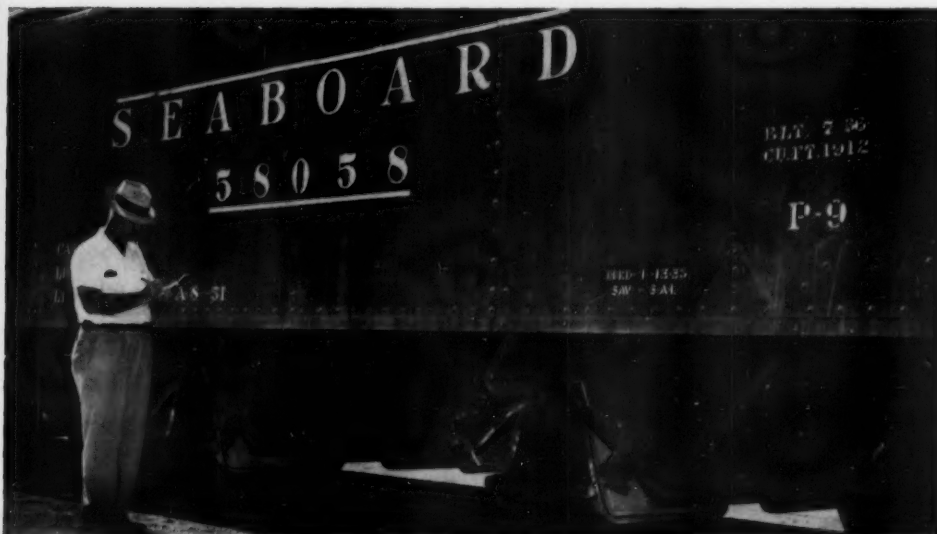
In addition, the hopper doors are subjected to severe

abrasive action as thousands of tons of ore grind over the door surfaces during loading and unloading. Yet, Seaboard maintenance records reveal that USS COR-TEN steel has withstood this combined corrosion-abrasion attack for 18 years running—the only maintenance needed has been an occasional coat of paint.

On the basis of this low-maintenance, money-saving performance, Seaboard Air Line has, since 1935, continued to use more and more COR-TEN steel construction. They now have in service 1775 cars built with USS COR-TEN steel roofs and hopper doors. This year, they have ordered 400 more.

If you want your equipment to last longer, cost less to maintain, and cost less to operate, get the facts about construction with USS COR-TEN steel. Our engineers will be glad to show you how readily this famous "steel that does more" can be applied to your designs, how little it costs, and the sound economic reasons that justify its use.

UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



THE excellent condition of the COR-TEN steel hopper doors, after 18 years' service hauling phosphate ore, is clearly shown in this photograph. COR-TEN steel's high resistance to atmospheric corrosion—4 to 6 times that of ordinary steel, 2 to 3 times that of copper steel—and its greater resistance to abrasion pay off here. Not one of these doors in 100 cars built in 1934 has had to be replaced because of wearing out.

UNITED STATES STEEL

Questions

The Baltimore & Ohio yardmaster at East St. Louis, Ill., had to furnish cars for a car-loading company's platform, some of which had to be loaded to destinations and via routes shown in the "Answer" column at the right. The yardmaster had the following suitable ownerships of empty box cars available: D&RGW; MP; NYC; D&H; WP; PRR; L&N; Rdg; NP; Sou; Erie; B&O; NH; C&O; SAL; UP; M&StL; CNJ; CB&Q; and RI. When the last car was spotted, the yardmaster was well satisfied with his work, for each car would be loaded in accordance with car service rules, and there would be no empty mileage involved in placing cars on their owners' rails after they were released at destination.

The question, originally published in this column November 23, 1953, is: Which of the cars did he use, and to which destination did he card each of them?

CONDUCTED BY G. C. RANDALL, district manager, Car Service Division (ret.), Association of American Railroads, this column runs in alternate weekly news issues of this paper, and is devoted to authoritative answers to questions on transportation department matters. Questions on subjects concerning other departments will not be considered, unless they have a direct bearing on transportation functions. Readers are invited to submit questions, and, when so inclined, letters agreeing or disagreeing with our answers. Communications should be addressed to Question and Answer Editor, Railway Age, 30 Church Street, New York 7.

and Answers FOR THE TRANSPORTATION DEPARTMENT

Old friends disagree on the answer.

Here, in part is the answer given in this column January 4:

| Point | Route | Proper Car |
|----------------------|--------------|------------|
| Pueblo, Colo. | B&O-MP | D&RGW |
| Billings, Mont. | B&O-CB&Q | NP |
| Butte, Mont. | B&O-CB&Q-NP | UP |
| Salt Lake City, Utah | B&O-RI-D&RGW | WP |

The CB&Q car was unused; it could be delivered home to its owning road at St. Louis.

And here is an expression of disagreement with the quoted portion of the answer:

"When I read your original question and noticed the proviso that 'There would be no empty mileage involved in placing cars on their owners' rails after they were released at destination,' I withheld constructive thoughts until you published the results. Your answer now brings out clearly what I had in mind—that there were two separate and distinct subjects involved, but not clearly spelled out: (1) Observation of car service rules; and (2) why so many car-miles.

"In my opinion each subject should be discussed. But to permit clear thinking, the questions should be presented without the admitted 'jokers,' (January 4, page 18).

"As an example of what I have in mind: You say it was proper to apply a D&RGW car to Pueblo, Colo., routed B&O-MP. I do not think it was, even considering the joker on saving empty car-miles, for on the same date you had a load for Salt Lake City routed B&O-RI-D&RGW, which was placed in a Western Pacific car. Assume for a moment that loaded movement at Salt Lake is at the rate of 100 box cars eastbound, but only 50 westbound, and that there is no other source of supply in the producing territory. It therefore follows that there must be an empty movement of 50 box cars westbound to equal the 100-car eastbound movement. Assume further that the RI and D&RGW have to move empty box cars of eastern and other ownerships, including WP, west to take care of equalization at Salt Lake. Where is there any avoidable empty mileage to be saved in loading the D&RGW car via owners in accordance with car service rules and the Car Service Division loading chart, and sending the emptied WP car home on the equalization plan? Or if the WP car had been used and the D&RGW car moved empty to take care of the equalization, I cannot see any \$0.06 per mile saving.

"I believe the same principle prevails on selection of an NP car via CB&Q to Billings, via the CB&Q, when

there was a load available for Butte, via the CB&Q-NP, where a UP car was used. The CB&Q car left over as surplus empty at St. Louis, or its equivalent, had later to be moved empty from St. Louis to the NP to take care of equalization.

"In my opinion great care must be used in your Question and Answer column to avoid confusion in strict application of car service rules." — J. L. Brown, general superintendent transportation (ret.), Milwaukee.

A review of recent columns convinces me that we have done no injury to the doctrine of strict application of car service rules.

In presenting the quiz, in the November 23 issue, it was felt that demand and supply situations existing at destinations of loads should not be given consideration in the solution. If the yardmaster at East St. Louis had instructions to turn surplus empty box cars to roads via which these loads were routed, and had he known that these empty cars were intended for areas in the vicinity of these destinations, he would have applied the cars most readily available on the orders he had. Obviously, under these circumstances it would have made no difference which cars moved empty to those areas. In the absence of such orders, it is presumed he had no knowledge of car supply conditions at the scattered destinations of the loads. It would be proper, therefore, for him to utilize cars available as indicated in the published solution.

There is a saying that a man's judgment is no better than his information. Certainly, a yardmaster of an eastern road at East St. Louis would not, ordinarily, be familiar with changing car supply and demand conditions at distant points not served by his road. It would have required some special advice, such as local or C.S.D. orders to move empty cars to those areas, to apprise him of the situations there.

The "joker" was put into the problem to see if readers would put themselves in the position of the yardmaster, who had to do something with the eight cars left over. Nearly half of those answering the quiz got the point. This would seem to indicate that the "joker" did no harm to the rules application. Had we added to the question the words "nor would there have been any empty miles in disposing of cars left over," it would have simplified the problem and helped to produce a greater number of correct replies. However, I believe it also would have taken much of the interest out of the problem.—G. C. R.

NEW BAKER "Yardloader"

TRADE-MARK

4000 LB. GAS FORK TRUCK

COSTS ONLY \$2985.00



Priced about 25% under any other gas trucks in its capacity, the Yardloader now brings cost-saving fork truck operation within the reach of practically every company with yard-handling problems. Travel speed approaching 14 miles per hour, large pneumatic tires, exceptionally high ground clearance and oscillating trail axle make it the ideal truck for outdoor service

over large unimproved or semi-improved areas.

Heavy-duty industrial engine of proven make, 4-speed transmission and extra-heavy drive axle assure ample power for top performance under any conditions. Hydraulic lift to 122 inches, automotive-type steer, convenient controls and excellent driver visibility are a few of the features contributing to safety and ease of operation.

Get all the facts—and save up to \$1000.00 on your next gas fork truck.

Send in this coupon today.

THE BAKER-RAULANG COMPANY

1255 West 80th Street • Cleveland 2, Ohio

*The Baker-Lull Corporation • Subsidiary, Minneapolis, Minn.
Materials Handling and Construction Equipment*

TO THE BAKER-RAULANG CO., 1255 West 80th St., Cleveland 2, Ohio

Please send me information and specifications on the new Baker EY-40 Yardloader which sells for only \$2985.00.

Name _____ Title _____

Company _____

Address _____

City _____ State _____

With USS One-Wear WROUGHT Steel Wheels YOU SAVE MONEY FOUR WAYS



Wrought Steel Wheels deliver more ton-miles per dollar than any other type wheel—for two reasons:

1. They are made of steel, whose inherent properties combine hardness to resist wear, strength to withstand heavy loads, and ductility to minimize sudden brittle fractures.
2. This excellent combination of properties is improved by forging, rolling and control-cooling the wheel—imparting to the steel a high degree of soundness.

BECAUSE they are made of Wrought steel, USS One-Wear Wheels are far stronger, safer, more durable and more economical than ordinary wheels, and will actually average from 200,000 to 300,000 miles or more in normal freight car service.

Consequently, One-Wear Wrought Steel Wheels offer you these four cost-cutting advantages:

1. **Lower wheel cost per year.** Although the initial cost of One-Wear Wheels is slightly greater than ordinary type wheels, their far greater length of life in any given service will reflect a *substantially lower annual cost* than that of the ordinary wheel.
2. **Lower labor costs due to reduced maintenance.** Elimination or reduction of labor requirements represents one of the best ways to save money today. Maintenance costs for cars equipped with wear-resistant Wrought Steel Wheels are considerably lower, as they require far less wheel servicing than cars with other kinds of wheels.
3. **More Revenue.** A car rolling on One-Wear Wrought Steel Wheels spends more time in service, and less time on a repair siding, resulting in increased revenue to the railroad.
4. **More Payload.** One-Wear Wheels are far lighter than ordinary wheels. Eight Wrought Steel Wheels under a 50-ton capacity car will save approximately 1,520 lbs. of unsprung weight, which can be directly converted into additional payload capacity—or it can mean a savings in fuel due to the decreased load.

Greater safety, longer service, higher mileage, less weight . . . all at lower cost. You can't beat that for the best deal in wheels.

These two strategically located complete wheel shops are ready to fill your orders for Wrought Steel Wheels: McKees Rocks (Pittsburgh), Pennsylvania, shop, serving the East and Southeast, and the Gary, Indiana, shop, supplying the Western and Southern Lines.

UNITED STATES STEEL CORPORATION, PITTSBURGH, PA. • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS WROUGHT STEEL WHEELS



4-839

UNITED STATES STEEL

Railway Officers

DELAWARE & HULSON.—**Joseph F. Hartman**, general agent, freight department, at Buffalo, has been appointed general freight agent, solicitation and service, at Albany. **William H. Hartman**, commercial agent at Boston, has been appointed general agent, freight department, at Winston-Salem, N.C., succeeding **Joseph J. Kaelin**, transferred to Buffalo.

DETROIT & TOLEDO SHORE LINE.—**Arthur C. White** and **A. H. Droman**, assistant general freight agents at Detroit, have been named general freight agents there.

DULUTH, SOUTH SHORE & ATLANTIC.—**A. G. Greenseth**, general mechanical superintendent at Minneapolis, has been appointed assistant to vice-president at that point, while **Thomas F. Kearney**, mechanical superintendent at Marquette, Mich., becomes general mechanical superintendent there.

DULUTH, WINNIPEG & PACIFIC.—**Robert Wyman** has been appointed superintendent at Virginia, Minn. Mr. Wyman was formerly assistant superintendent for the **Canadian National** at Sioux Lookout, Ont.

EAST CAROLINA—ROCKINGHAM.—**W. G. Hall** has been appointed general superintendent of these roads, with headquarters at Farmville, N.C., and Rockingham.

ERIE.—**Edwin A. Jaehne**, chief of division bureau at Chicago, retired January 31 because of ill health, after 30 years of service.

ILLINOIS CENTRAL.—**Lawrence H. Schierbecker**, assistant superintendent car department at Chicago, has been advanced to superintendent car department at that point, succeeding **George J. Lehnerer**, who has been appointed assistant mechanical and research engineer there. **E. L. Marsalis**, general foreman car department at Waterloo, Iowa, has been appointed assistant superintendent car department at Chicago, succeeding Mr. Schierbecker.

C. L. Foust, assistant manager stores at Chicago, has been appointed general storekeeper at Paducah, Ky., succeeding **B. T. Adams**, deceased.

W. C. Woods, Jr., trainmaster at East St. Louis, Ill., has been transferred to Chicago, while **L. R. Clayton**, trainmaster at Clinton, Ill., succeeds him. **Loren T. Coyle** has been appointed trainmaster at Vicksburg, Miss., replacing **W. B. Kennedy**, who has been transferred to Clinton to succeed Mr. Clayton. **R. C. Haynes** and **L. H. Manemann** have been named acting trainmasters at Carbonale, Ill., and Memphis, Tenn., respectively.

Mr. Haynes replaces **C. S. Scott**, temporarily appointed rules examiner, while Mr. Manemann succeeds **T. P. Crymes**, also named rules examiner on a temporary basis.

ILLINOIS TERMINAL.—**William A. Nelson, Jr.**, western traffic manager at San Francisco, has been appointed assistant to president at St. Louis. **S. H. Lloyd**, general agent at Atlanta, succeeds Mr. Nelson as western traffic manager at San Francisco. **G. K. Bennett** succeeds Mr. Lloyd as general agent at Atlanta and **William I. Pierce** has been promoted to general agent at San Francisco. The position of traveling agent, formerly held by Mr. Pierce, has been abolished.

NEW YORK, ONTARIO & WESTERN.—**L. D. Freeman**, former head of the railroad Section of the Reconstruction Finance Corporation at Washington, D.C., has been appointed trustee of the NYO&W at New York, succeeding **F. J. Sieghardt**, whose resignation was noted in *Railway Age* January 11.

PITTSBURGH & LAKE ERIE.—**Donald B. Fleming**, superintendent of the West and Western divisions of the **New York Central** at Chicago, has been named general superintendent of the P&LE at Pittsburgh, a new post.

The P&LE has announced a streamlining of its organizational setup. **T. R. Fitzpatrick**, assistant vice-president—freight traffic manager, has been named assistant vice-president—traffic and his jurisdiction has been extended to passenger traffic, including services, rates and sales. **C. M. Gordon**, assistant vice-president, has been appointed assistant vice-president—management, with responsibility for accounting, real estate and other matters pertaining to management. **Robert E. Black**, superintendent of personnel, will have the title director of personnel, with broadened duties including direction over all matters of labor relations and personnel administration. **Howard G. Pike**, superintendent of equipment, has been named director of research, a newly created post, and will be responsible for industrial engineering, transportation research and evaluation of new management techniques. Duties of **F. R. Paisley**, chief engineer, will be widened to include supervision over maintenance of way, signals, communications, electrical facilities and design and construction. **James J. Wright**, industrial engineer of equipment of the **New York Central** at New York, has been assigned to the new position of manager of equipment of the P&LE, with responsibility over all matters pertaining to locomotive and car maintenance. **Earl G. Brisbin**, division engineer for the Michigan Central at Jackson, Mich., has been appointed engineer maintenance of way of the P&LE.

Anton V. Hilstrom, enginehouse

foreman at McKees Rocks, Pa., has been named superintendent of the new diesel shop there and **William W. Walter**, general foreman, has been appointed superintendent of the car shop.

PULLMAN COMPANY.—**Mason B. Osburn**, operating vice-president, has been appointed senior vice-president at Chicago; **George W. Bohannon**, general manager there, succeeds him. Mr. Osburn, with Pullman since



Mason B. Osburn

1910, has served as operating vice-president since 1947. Mr. Bohannon entered railway service in 1926 with the Duluth, Missabe & Iron Range and served several years as mechanical en-



George W. Bohannon

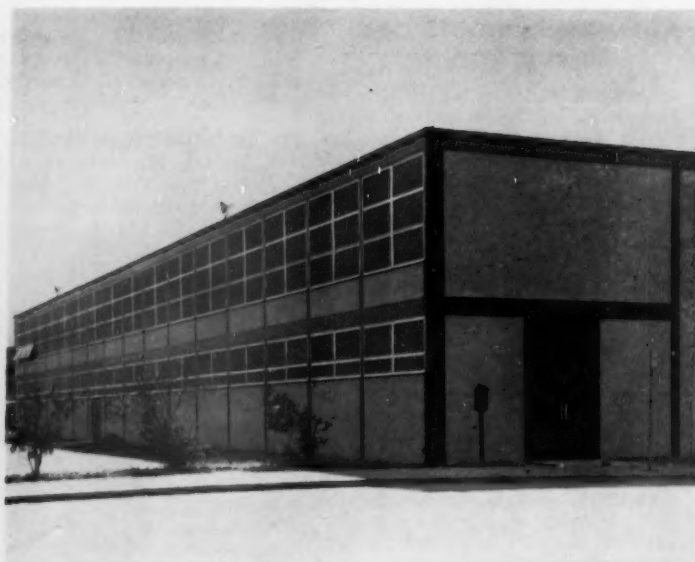
gineer. In 1944 he joined the Chicago & North Western and rose to the position of chief mechanical officer prior to joining Pullman in 1951 as manager-purchases and stores. He became general manager in 1952.

OBITUARY

Robert Lounsbury Black, 72, president of the **Little Miami** (operated by the Pennsylvania as lessee of the Pittsburgh, Cincinnati, Chicago & St. Louis), died January 24 at Holmes hospital, Cincinnati.



DRAFT-GEAR TEST machine with 27,000-lb. tup, or drop hammer, and roller conveyor.



UTILITARIAN DESIGN characterizes the laboratory building.

Mechanical Lab Now Functioning

What's New in A.A.R. Research—II...

Building, completed in October 1953, still only partially equipped, but extensive test program is planned for 1954

The large program of research planned by the A.A.R. Mechanical Division for 1954 is expected to cost over \$400,000 and will supplement other extensive tests and development work by individual railroads and manufacturers. Outside sources are also being enlisted to help solve especially troublesome mechanical problems such as hot boxes and diesel locomotive wheel failures. In the study of hot boxes, the Mechanical Division is utilizing the services of the Armour Research Foundation and the Franklin Institute to supplement intensive efforts of the A.A.R. Research Center. Diesel wheel stresses are being checked in a joint research project with the Electro-Motive Division of General Motors Corporation and the Technical Board of the Wrought Steel Wheel Industry.

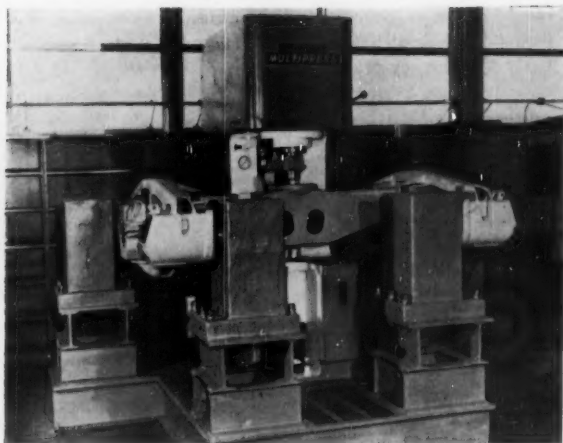
From a laboratory standpoint the outstanding event of 1953 was completion of the new mechanical research building, a modern structure, 72 ft. wide by 192 ft. long, immediately north of the administration building at the Research Center in Chicago. It follows the same type of architecture. A siding runs from the existing test track into the building so that freight cars may be switched inside and unloaded by the traveling crane.

The draft gear testing apparatus, formerly housed

at Purdue University, is now installed in the new laboratory and mounted on a concrete caisson extending to bed rock, 80 ft. below the surface. A hot-cold room is being constructed which will house the new journal-bearing testing machine, especially designed for railroad test work under full journal loads. This room will be completely insulated on walls, ceiling and floor, and will have mechanical equipment to give temperature control within all extremes encountered in American railway operation.

The test machine is designed for both solid and roller-type journal-bearing assemblies and will handle many phases of testing in connection with journal-bearing lubricating materials. The pilot testing machine and the eight-spindle half-size journal-testing machine are now in the new building and will supplement the full-size test machine.

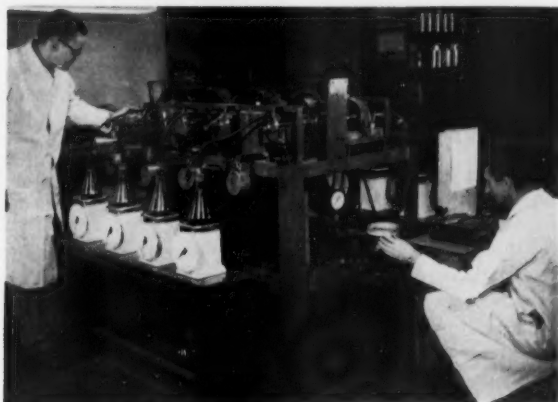
A complete chemical laboratory for the testing and analysis of petroleum products has been installed on the balcony of the new building as a complement to mechanical testing apparatus. A heavy-duty hydraulic press has been installed which, with special fittings, will first be used to evaluate the service life expectancy of snubbing devices for freight car trucks. These



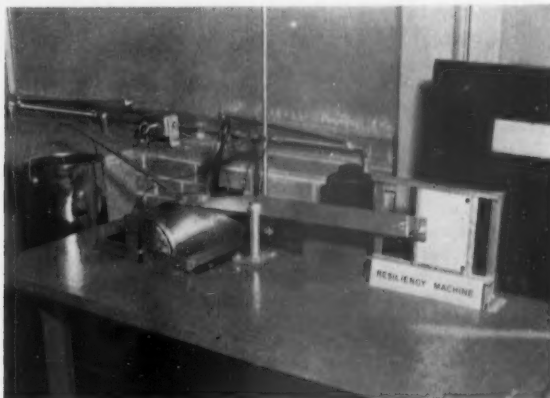
HYDRAULIC CYCLE-LOADING machine used for testing snubbers and springs in complete freight truck assemblies.



A MANUAL TEST MACHINE used in A.A.R. certification of freight-car hand brakes.



EIGHT-SPINDLE lubrication test machine used in determining efficiencies of waste and oil combinations.



INGENIOUS MACHINE which assists in studies of packing resiliency—important factor in journal lubrication.

laboratory tests will supplement information obtained from the road testing of trucks suitable for high-speed freight service. Other testing equipment will be installed as received.

The building has office facilities for the test personnel, a computation room, and allocated space for the necessary machine tools. Small and portable test equipment will be placed on the balcony, adjacent to the petroleum chemical laboratory, the main floor being reserved for heavy testing apparatus, office space, storage facilities for parts and appliances and the machine shop.

New Laboratory Already in Use

The new mechanical laboratory, although not yet completely equipped, is now on a working basis and new testing devices are being installed as rapidly as possible. The draft-gear machine with 27,000-lb. tup, or drop hammer, is being used to test new draft-gear designs which must pass A.A.R. certification requirements before use in interchange service and which must be subject to subsequent periodic check tests of performance. A 9,000-lb. tup is also available for use when necessary in the draft-gear test machine.

During any intervals when the drop-test machine is not required for A.A.R. draft-gear certification work, it will be available for any other heavy testing or development conducted either for individual railroads or manufacturers. In the former case, charges will be on the basis of actual cost and in the latter the same as when the drop hammer was located at Purdue, namely, \$150 a day for the first three days and \$100 a day thereafter.

The chemical laboratory, used solely for testing and analyzing car journal oils and greases, is fully equipped for that purpose. Roller bearing greases are now subject to certification by the A.A.R. and each product submitted for use in axle roller bearings must pass a rigid road service test and chemical analysis.

Following extensive A.A.R. road service tests of freight car trucks and snubbing devices in high-speed service several years ago, it was decided to subject those designs with the highest rating to laboratory tests in order to determine the life expectancy of such devices. The Dennison heavy-duty Multipress Cycling machine is being used for this purpose. Truck designs are tested in this machine, which has a load capacity of 50 tons, a 15-in. stroke, and can produce vibrations up to 120 per minute



NINE-TON DIESEL SWITCHER powered with Cummins 100-hp. engine, used for impact tests.

MECHANICAL RESEARCH PROJECTS CARRIED OVER INTO 1954

Hot-Box Research

- (a) Road studies
- (b) Bearing designs
- (c) Bearing metals
- (d) Treatments of present waste
- (e) New synthetic waste (Nylon, Orlon)
- (f) Special treatments of waste
- (g) Lubricating pads (waste substitutes)
- (h) Mechanical lubricating devices
- (i) Additives for oil
- (j) New methods of servicing boxes

Axle Research

- (a) Fatigue testing at Canton laboratory
- (b) Tests to show permissible overheating
- (c) Effect of copper penetration on fatigue

Journal-Bearing Development

- (a) Testing and study of new designs
- (b) Road tests of ventilated journal bearings

Stresses in Diesel Locomotive Wheels

Laboratory stress tests

- (a) With simulated brake shoe heating
- (b) With actual brake shoe heating
- (c) Road tests under lateral and vertical loads
- (d) Evaluating loads and forces, all conditions

Impact Tests of Railroad Cars

- (a) To determine cause of tank-car shell failure*
- (b) To discover any weakness in all-welded tank*

Certification Tests

- (a) Certifying and approving equipment parts
- (b) Certifying roller-bearing lubricants

Refrigerator Car Research

- (a) Fire resistant properties of insulation*
- (b) Coatings used as spark shields under cars*
- (c) Tests of improved car drains
- (d) Studies of mechanical cooling equipment

Miscellaneous Tests

- (a) Normalizing side frames to prolong life
- (b) Damage to dressed beef in transit (joint study)
- (c) Tests of insulating materials and coatings*
- (d) Lading damage from materials sprayed on the underside of box-car roofs
- (e) Tests of patented air-hose clamps
- (f) Brake-shoe spark protection devices*
- (g) Brake-beam support vibration tests*
- (h) Corrosion of freight-car trucks
- (i) Life expectancy of freight-truck snubbers
- (j) Brake-cylinder packing cups†
- (k) Brake-cylinder lubrication studies†

* Completed in 1953

† Initiated in 1954

for as long as necessary to determine wear rates and probable service life of the snubber units.

By far the major A.A.R. research project under way at this time is the general subject of journal-bearing lubrication. Many separate studies include the design of new type solid bearings, improvements in the existing standard bearing-wedge assembly, investigations of various metals and alloys, and analysis of the actual bearing assembly.

Other intensive studies are being made of the oils, additives, and waste that make up lubricating parts of the standard waste-pack. Numerous substitutes are being tested both in the laboratory and in road service in an effort to improve axle journal lubrication.

Mechanical lubricators are also being tested and, when such devices show possible merit, a limited number are placed in road service under controlled conditions, as specified by the A.A.R. Lubrication Committee. Many such materials and devices are given preliminary laboratory tests in the pilot testing machine and the eight-spindle, half-size journal-testing machine.

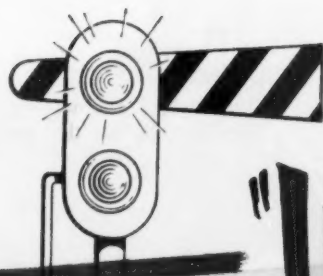
It is expected that the full-scale journal-testing machine now being built by the Baldwin-Lima-Hamilton Corporation and its subsidiary, the Sonntag Scientific Corporation, will be delivered in March and placed in the hot-cold room with necessary equipment to control temperatures from -60 deg. F. to 130 deg. F. Solid type bearings will be tested at controlled temperatures anywhere within this range and information developed highly essential to the reduction of hot boxes.

Of prime consideration in the journal-box lubrication studies is the test of car journal oils in which all major oil companies are cooperating through their own research laboratories. The objective is to find a journal oil which will function satisfactorily within the extremes of summer and winter temperatures encountered.

Conclusion Drawn from Studies

Typical of the practical conclusions drawn from A.A.R. lubrication studies to date are those given in the eighth progress report just released, as follows: Of seven sample oils tested, none gave indications of better lubrication in road service; lighter oils show greater loss due to vaporization; pressure of waste against journals causes a significant proportion of the heat generated; bearing temperatures decrease with lower oil viscosity, but film strength in that case needs further investigation; a new type of waste-retaining rib in the bottom of the journal box, designed at the A.A.R. Research Center, resists packing roll or displacement; MS-40 extreme-pressure, sulphur-type oil additives show some discoloration but no corrosive effect on the highly finished journals; cellulose block substitute journal-box packing shows some superior characteristics but also a loss of resiliency at subzero temperatures; a glass-fiber substitute material proved completely unsatisfactory; threads for journal-box waste of specified tensile strength have not been located in commercial supply but the problem is being studied.

The survey of hot boxes in road service, conducted by the A.A.R. Mechanical Research Center in conjunction with 14 member roads, has been completed and a preliminary report prepared which is being studied by the appropriate committee.



**Flash the Red Light on
Equipment and Maintenance Costs**

With "Liquid Aluminum"



Liquid Aluminum puts a fast stop to costly railroad maintenance and equipment replacement because it is amazingly resistant to rust . . . resists discoloration from smoke and fumes, too. It reflects up to 85% of heat and light rays . . . reduces evaporation losses . . . actually beautifies as it protects.

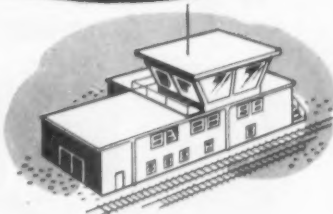
Put *Liquid Aluminum* to work on your freight and passenger cars, signaling and communication equipment, bridges, tanks, towers, buildings and other railroad structures and equipment. It offers you economical protection that turns the red light on maintenance and replacement costs . . . gives the green light to a more profitable operation.

Look for the *Liquid Aluminum* label on the aluminum paint you choose. It is your assurance of a quality product made by leading paint manufacturers to approved minimum standards. Ask your paint supplier or write for names of manufacturers to Reynolds Metals Company, 2500 South Third Street, Louisville 1, Kentucky.



ONE COAT PROTECTION FOR YOUR BUILT-UP OR RUSTABLE METAL ROOFS

It's *Liquid Aluminum* with asphalt for roofs. It will add years to roof life . . . and keep buildings cooler in summer to cut air conditioning costs and increase employee efficiency and morale. Look for the *Liquid Aluminum* label and the special Warranty Seal . . . they are your assurance of the right amount of aluminum pigment in an approved vehicle. Write for folder to address above.



This advertisement appears in the interest of the Paint Industry of America

"the cost of something just as good"

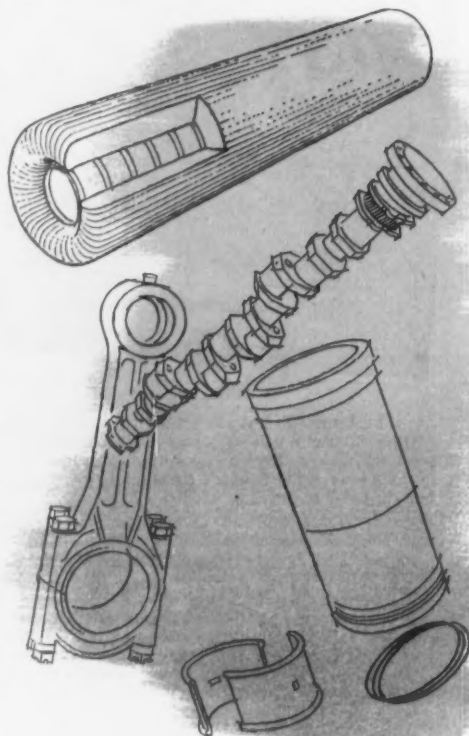
How much do your diesel locomotive renewal parts cost you?

We don't mean the price-tag price . . . although that's important, too. We mean the over-all, actual cost in terms of operation, maintenance, availability and utilization of motive power.

Take, for example, the case of the Alco filter sock. This apparently simple arrangement of cotton waste and perforated metal trays, used for filtering lubricating oil in diesel engines, has to meet nearly two dozen material and construction specifications, must pass four separate laboratory tests . . . any deviation from these specifications being cause for Alco's rejection of a shipment. Alco tests include microscopic examination of sample fibers, water solubility test, enzyme solubles test, and 24-hour hot-oil test.

We've heard of more than one railroad that experimented with "bargain" type filter socks without looking beyond the price tag . . . only to find that they resulted in costly engine repairs, down time, and lost revenues—or else were too big or too small for the job.

Bargains in filter socks and other locomotive parts are being offered every day under the guise of "something just as good." Don't be fooled by the price tag . . . you may be getting a "bargain" you can't afford . . . or a product you can't use.



THERE ARE NO SUBSTITUTES FOR GENUINE ALCO PARTS

Alco

AMERICAN

GENUINE ALCO RENEWAL PARTS MEAN FULL PERFORMANCE WITH FULL PROTECTION



LATEST DESIGN FEATURES: All genuine Alco renewal parts incorporate the latest advances in *proven* mechanical and metallurgical design from the standpoint of efficient overall locomotive operation. Extensive laboratory and field tests consistently lead to improvements in all Alco renewal parts—improvements that mean better performance, greater operating economies, increased protection against failure, and longer service life.



SUPERIOR QUALITY CONTROL AND FULL WARRANTY: Alco engineers and inspectors constantly check all shipments against specifications to insure adherence to Alco's high standards of quality . . . standards based on specific locomotive requirements and dictated by Alco's extensive experience as a locomotive builder. The Alco warranty is a measure of these high standards—your assurance of expert workmanship and dependable performance.



SCIENTIFIC, UNIFORM PACKAGING: Like all parts purchased direct from Alco, the pump shown above is thoroughly protected from dirt, moisture, and rough handling by layers of Vapor Corrosive Inhibitor paper and cellulose wadding, neatly enclosed in reinforced cardboard box specially designed for the individual part. Damage is thus minimized, your storage problems simplified.



MULTIPLE SUPPLY, SINGLE RESPONSIBILITY: Through its conveniently located warehouses, Alco supplies all of your renewal parts requirements, regardless of original source—with minimum delivery time, minimum shipping expense, and minimum handling costs. Thus Alco gives you all the advantages of multiple sources of supply, *but with a single responsibility.*

*Your nearest Alco Sales Representative will give you
complete information on genuine Alco Renewal Parts.*

LOCOMOTIVE COMPANY

Sales and
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in Principal
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RADIO HELPS T & P . . .

(Continued from page 18)

other concerning the results of train inspections. Because they can talk to each other, they are able to give accurate and detailed information concerning the inspection. This not only averts disasters, but reduces delays as well, because the train with the defect can be stopped, and the trouble remedied before more serious trouble results.

The radio equipment on the locomotives and cabooses is identical, being unitized in one case which contains the transmitter, receiver and power supply. On freight locomotives it is mounted at the rear of the "A" unit on the wall. The "top hat" antenna is mounted on the roof over the radio set. The handset and radio control unit are at the engineer's left on the throttle control stand. The loudspeaker is recessed in the left wall of the passageway leading to the nose of the locomotive. In passenger locomotives, the radio set is either directly behind the cab or in the nose of the locomotive, in which case the antenna is over the cab instead of the "A" unit.

In the cabooses, the radio equipment is under one of the seat bunks. A control box and handset are mounted on a wall adjacent to the conductor's desk with another handset mounted on a cupola wall within easy reach of persons on either side of the cupola. A loudspeaker is also mounted on a cupola wall, but it is wired in parallel so that persons using the radio can hear through the handsets as well as through the speaker.

Wrecker No. 7, which operates out of Fort Worth, has been radio-equipped for the better coordination of wrecking crew operations. The wrecker has a mobile radio, with a loudspeaking system which is interconnected with the radio. The wrecker foreman uses a small radio transmitter, which allows him to be on the ground directing operations. When he talks into his transmitter, his voice is broadcast by radio which is picked up by the receiver on the wrecker, and is fed into the loudspeaking system. Loudspeakers are placed (1) at the end of the wrecker

boom, (2) on the cab roof and (3) near the operator's position in the cab.

The radio equipment is in a weatherproof housing on the cab roof. A footswitch and microphone are mounted near the operator in the cab. To answer a call, the wrecker operator uses this footswitch and microphone, which amplifies his voice through the loudspeaking system. This radio also operates on the same frequency as the train-radio, thus making it possible for the wrecker foreman to talk to other trains or to wayside offices from an auxiliary radio control.

Thirteen of the fifteen base wayside stations are on the Eastern division. They are at Fort Worth, Dallas, Mesquite, Terrell, Wills Point, Grand Saline, Mineola, Big Sandy, Longview, Marshall, Jefferson, Atlanta and Texarkana. The other two base stations are at Baird and El Paso. At most stations, the remote control unit and handset are in the operator's or yardmaster's office. At Dallas, however, there are remote control handsets in the East Dallas yard office, and at Browder, the West Dallas yard office. Fort Worth also has remote control to the East Yard office and Lancaster yard or West Yard office.

Radio maintenance shops are at Mineola, Fort Worth and Big Spring. The maintenance program is under the supervision of a chief electronics technician who has four electronics technicians to man the three radio shops. Mineola and Big Spring are open eight hours a day, and the Fort Worth shop is open for 16 hours.

Mobile and base station radio equipment was furnished by the Bendix Radio division of the Bendix Aviation Corporation. Hallicrafters Corporation furnished the Littlefone walkie-talkies. Planning and carrying out the initial phases of the project was under the direction of W. A. Roberts, superintendent of telegraph, retired. Since 1952, M. R. Beamer, who was communications engineer since the beginning of the project, has directed the work as superintendent of communications. Installation, testing and maintenance has been done by railroad forces.

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| | |
|--|--------------------|
| American Locomotive Co. | 38, 39 |
| Agency—Hazard Advertising Co. | |
| American Steel Foundries | 6 |
| Agency—Erwin, Wasey & Co., Ltd. | |
| The Baker-Raulang Co. | 31 |
| Agency—G. M. Basiard Co. | |
| Bethlehem Steel Company | 1 |
| Agency—Jones & Brakeley, Inc. | |
| The Budd Co. | 20, 21 |
| Agency—Lewis & Gilman, Inc. | |
| Eastman Kodak Company | 13 |
| Agency—J. Walter Thompson Co. | |
| Electro-Motive Division, General Motors Corporation | Front Cover |
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| Fairbanks, Morse & Co. | Inside Front Cover |
| Agency—The Buchen Company | |
| General Electric Co. | Inside Back Cover |
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| | |
|---|------------|
| General Railway Signal Company | Back Cover |
| General Steel Castings | 19 |
| Agency—Oakleigh R. French & Assoc. | |
| LeTourneau-Westinghouse Co. | 14, 15 |
| Agency—Andrews Agency, Inc. | |
| Reynolds Metals Co. | 37 |
| Agency—Price, Roberson & Frouk, Inc. | |
| Joseph T. Ryerson & Son, Inc. | 40 |
| Agency—Calkins & Holden, Carlock-McClinton & Smith | |
| Standard Oil of Indiana | 22 |
| Agency—McCann-Erickson, Inc. | |
| Union Switch & Signal | 2 |
| Agency—Batten, Barton, Durstine & Osborne, Inc. | |
| United States Steel Company | 28, 29, 32 |
| Agency—Batten, Barton, Durstine & Osborne, Inc. | |
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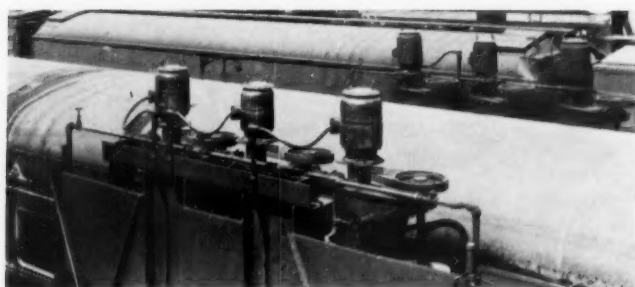
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